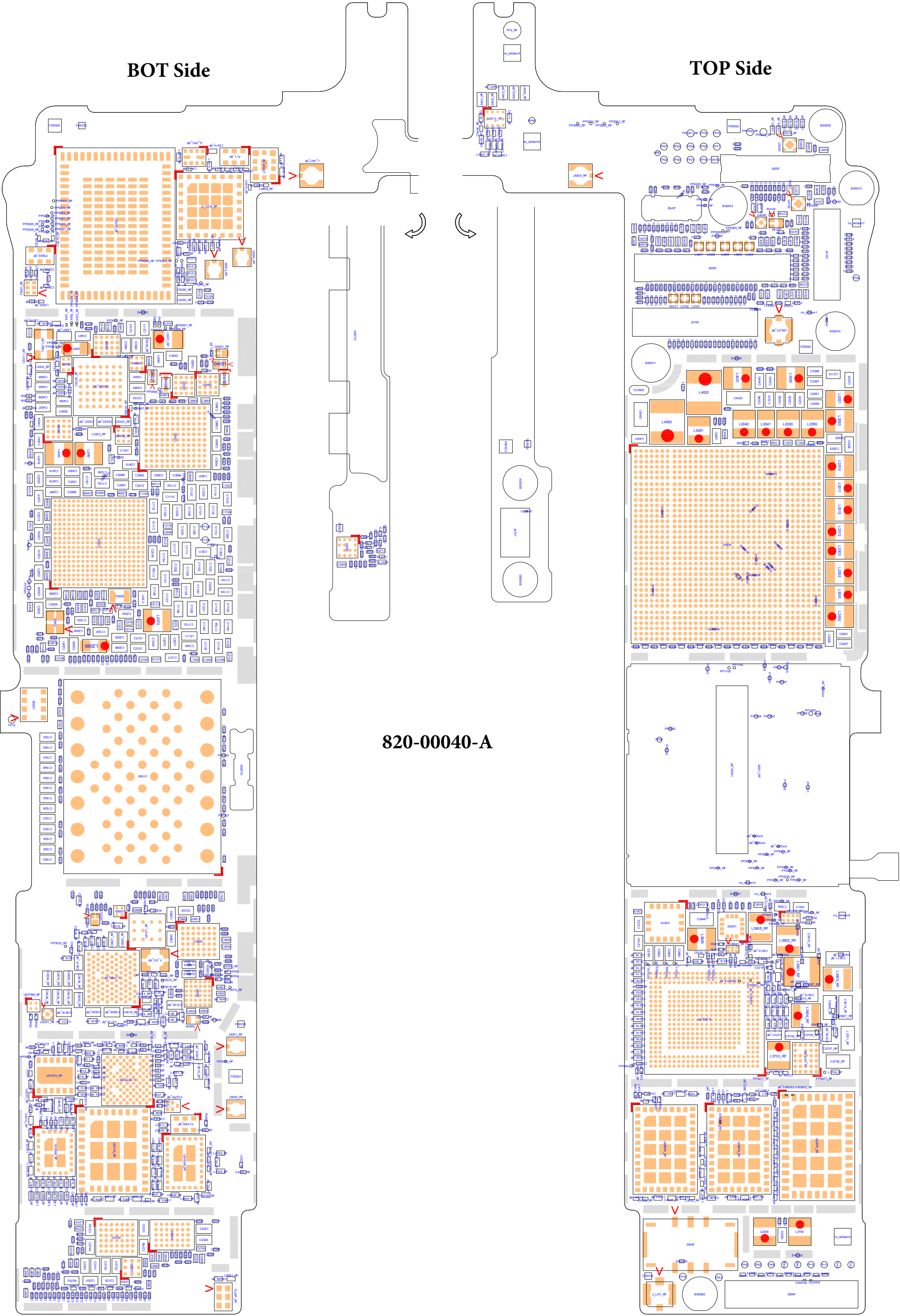


BOT Side

TOP Side



1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.

N66 MLB - PVT

LAST_MODIFICATION=Thu Jul 30 15:54:57 2015

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6	7	SOC:PCIE		
7	8	SOC:CAMERA & DISPLAY		
8	9	SOC:SERIAL & GPIO		
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22	33	CAMERA:STROBE DRIVER		
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58		SIM		
59		WIFI/BT: WIFI/BT MODULE		
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SCH 051-00094

BRD 820-00040

MC0 056-00472

BOM 639-00299 (BETTER, DB30)

BOM 639-00301 (ULTRA, DB30)

BOM 639-00302 (SUPREME, DB30)

BOM 639-01063 (BETTER, B30)

BOM 639-01064 (ULTRA, B30)

BOM 639-01065 (SUPREME, B30)

DRAWING TITLE			
SCHEM, MLB, N66			
 Apple Inc.	DRAWING NUMBER		SIZE
	051-00094		D
	REVISION		
	A.0.0		
NOTICE OF PROPRIETARY PROPERTY:			
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BRANCH			
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Active Diode Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00106	376S00047	ALTERNATE	Q2300	DIODES INC. ACT DIODE

NAND BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00039	1	NAND, 1YNM, 16GX8, S3E, 64G, T, SLGA70	U1500	CRITICAL	NAND_16G
335S00075	1	NAND, 1YNM, 64GX8, S3E, MLB, 64G, H, SLGA70	U1500	CRITICAL	NAND_64G
335S00079	1	NAND, 1YNM, 64GX8, S3E, 128G, H, SLGA70	U1500	CRITICAL	NAND_128G

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00074	335S00039	NAND_16G	U1500	HYNIX 16G SLGA70 C DIE
335S00078	335S00075	NAND_64G	U1500	HYNIX 64G SLGA70
335S00064	335S00075	NAND_64G	U1500	SANDISK 64G SLGA70 1Z
335S00065	335S00079	NAND_128G	U1500	SANDISK 128G SLGA70

Carbon BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	NOSTUFF
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	CARBON_INVENSENSE
338S00017	1	CARBON, INVENSENSE	U3010	CRITICAL	CARBON_INVENSENSE
338S00087	1	CARBON, INVENSENSE MPU-6800	U3010	CRITICAL	CARBON_INVENSENSE_6800

Power Inductor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00118	152S00075	ALTERNATE	\$?	IND, PMB, SHLD, 1, 2, 1H, 3, 5A, 0, 6000 OHM, 2010
152S00120	152S00077	ALTERNATE	\$?	IND, PMB, SHLD, 1, 0, 1H, 2, 25A, 0, 150 OHM, 2010
152S2052	152S1929	ALTERNATE	\$?	IND, MLT, 12M, 1, 2A, 0, 320 OHM, 0603

DDR PLL Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00095	155S00068	ALTERNATE	FL1200	FERR, 00, 1000MH, 220L, 1000M, 200M, 01005

SEP EEPROM Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00066	335S0946	ALTERNATE	U0900	IC, EEPROM, 512Kb, 1, 1V, 12C, MLCPM, 0605H

Low Noise Caps

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
138S0067	3	CAP, XSR, 30UF, 20%, 6, 3V, 0, 65PM, HIZTL, 0402	C2085, C2086, C2087	CAPS_NORMAL
998-01223	3	CAP, XSR, 30UF, 20%, 6, 3V, 0, 65PM, 0402, TMTPOSER	C2085, C2086, C2087	CAPS_LOW_NOISE

Schematic & PCB Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-00094	1	SCH, SINGLE_BRD, N66	SCH	CRITICAL	?
820-00040	1	PCBF, SINGLE_BRD, N66	PCB	CRITICAL	?
825-6838	1	EEEE CODE FOR 639-00299	EEEE_G300	CRITICAL	EEEE_BETTER_DB30
825-6838	1	EEEE CODE FOR 639-00301	EEEE_G35W	CRITICAL	EEEE_ULTRA_DB30
825-6838	1	EEEE CODE FOR 639-00302	EEEE_G35V	CRITICAL	EEEE_SUPREME_DB30
825-6838	1	EEEE CODE FOR 639-01063	EEEE_GKKY	CRITICAL	EEEE_BETTER_B30
825-6838	1	EEEE CODE FOR 639-01064	EEEE_GKL0	CRITICAL	EEEE_ULTRA_B30
825-6838	1	EEEE CODE FOR 639-01065	EEEE_GKL1	CRITICAL	EEEE_SUPREME_B30
825-6838	1	EEEE CODE FOR 939-01539	EEEE_GPMW	CRITICAL	EEEE_BETTER_DARWIN

Global Capacitor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
118S0764	118S0717	ALTERNATE	?	RES, 3, 92K, 0, 1%, 0201
138S0702	138S0657	ALTERNATE	?	CAP, XSR, 4, 3UF, 4V, 0610
138S00006	138S0833	ALTERNATE	?	CAP, 3-TERM, 4, 3UF, 4V, 0402
138S00005	138S00003	ALTERNATE	?	CAP, XSR, 120F, 6, 3V, 0, 65PM, 0402, TAIYO
138S00048	138S00003	ALTERNATE	?	CAP, XSR, 150F, 6, 3V, 0, 65PM, 0402, KYOCERA
138S0648	138S0652	ALTERNATE	?	CAP, XSR, 4, 70F, 6, 3V, 0, 65PM, 0402, TAIYO
132S0400	132S0436	ALTERNATE	?	CAP, XSR, 0, 220F, 6, 3V, 01005, TDK
138S00032	138S0831	ALTERNATE	?	CAP, XSR, 2, 2UF, 6, 3V, 0201, TAIYO
138S00049	138S0831	ALTERNATE	?	CAP, XSR, 2, 2UF, 6, 3V, 0201, KYOCERA
138S00024	138S0906	ALTERNATE	?	IND, DR, 2, 10M, 1, 5M, 10M, 01, 002, 1010/10
138S0706	138S0739	ALTERNATE	?	CAP, CER, 10F, 20V, 10V, XSR, 0201, MURATA
138S0945	138S0739	ALTERNATE	?	CAP, CER, 10F, 20V, 10V, XSR, 0201, KYOCERA

Global Ferrite Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S2052	152S1929	ALTERNATE	?	IND, 1UH, 1.2A, 0003
155S0773	155S0453	ALTERNATE	?	FERR, 1200MH, 0, 800M SCK, 01005
155S0653	155S0511	ALTERNATE	?	FERR, 330MH, 0, 600MH DCR, 0201
155S00067	155S0581	ALTERNATE	?	FERR, 2400MH, 0, 350MH DCR, 0201
155S00012	155S00009	ALTERNATE	?	FLTR, 65 OHMS, 0005
155S0960	155S0941	ALTERNATE	?	FERR, 70 OHMS, 01005
155S0660	155S0513	ALTERNATE	?	FERR, 22 OHMS, 0201

Global Varistor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
377S0160	377S0140	ALTERNATE	?	VARISTOR, 6, 8V, 100PF, 01005

Inductor Sub BOMs

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
605-00083	1	SUBBOM, SINGLE_BRD, CYNTEC, N66	SUBBOM_IND	COMMON
152S00074	12	IND, PMB, SHLD, 1, 0H, 3, 5A, 0, 0000 OHM, 2010		CYNTEC
152S00081	6	IND, PMB, SHLD, 0, 470H, 3, 5A, 0, 040 OHM, 2012	L2001, L2003, L2011, L2013, L2021, L2041	CYNTEC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
152S00117	12	IND, PMB, SHLD, 1, 0H, 3, 5A, 0, 0000 OHM, 2010	L2001, L2003, L2011, L2013, L2021, L2041, L2043, L2045, L2047, L2049	TAIYO
152S00121	6	IND, PMB, SHLD, 0, 470H, 3, 5A, 0, 040 OHM, 2012	L2001, L2003, L2011, L2013, L2021, L2041	TAIYO

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
605-00082	605-00083	ALTERNATE	SUBBOM_IND	SUBBOM, SINGLE_BRD, TAIYO, N66

SOC/PMU SUB BOMS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
605-00071	1	SUBBOM, MLB, MAUI, N66	SUBBOM_SOC	COMMON
338S00120	1	IC, PMU, ANTIGUA, A1, AL, MLCPSP300	U2000	MAUI
118S00631	1	RES, MF, 100 OHM, 1%, 1/32W, 01005	R0730	MAUI
131S0307	1	CAP, CER, NP0/C0G, 100PF, 5%, 16V, 01005	C0730	MAUI
339S00112	1	PROD FUSED, M DRAM	U0600	MAUI
117S0161	1	RES, MF, 0 OHM, 01005	R0651	MAUI

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
338S00122	1	IC, PMU, ANTIGUA, A1, ZL, MLCPSP300	U2000	MALTA
118S00009	1	RES, MF, 3, 01KOHM, 1%, 1/32W, 01005	R0730	MALTA
131S0307	1	CAP, CER, NP0/C0G, 100PF, 5%, 16V, 01005	C0730	NOSTUFF
339S00124	1	M PROD FUSED, M DRAM	U0600	MALTA
118S00025	1	RES, MF, 330 OHM, 1%, 1/32W, 01005	R0651	MALTA

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
605-00072	605-00071	ALTERNATE	SUBBOM_SOC	SUBBOM, MLB, MALTA, N66

AP Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00113	339S00112	MAUI	U0600	PROD FUSED, M DRAM
339S00114	339S00112	MAUI	U0600	PROD FUSED, S DRAM

339S00125	339S00124	MALTA	U0600	M PROD FUSED, H DRAM, ATK
339S00126	339S00124	MALTA	U0600	M PROD FUSED, S DRAM, ATK
339S00127	339S00124	MALTA	U0600	M PROD FUSED, M DRAM, SCK
339S00128	339S00124	MALTA	U0600	M PROD FUSED, H DRAM, SCK
339S00129	339S00124	MALTA	U0600	M PROD FUSED, S DRAM, SCK

Shield Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
806-04265	1	LOWER FRONT SHIELD	SH0501	CRITICAL	COMMON

SIM Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
512S00013	1	SIM, Integrated Eject, N66	J3001_RF	CRITICAL	COMMON

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Active Diode Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00106	376S00047	ALTERNATE	Q2300	DIODES INC. ACT DIODE

NAND BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00039	1	NAND, 1YNM, 16GX8, S3E, 64G, T, SLGA70	U1500	CRITICAL	NAND_16G
335S00075	1	NAND, 1YNM, 64GX8, S3E, MLB, 64G, H, SLGA70	U1500	CRITICAL	NAND_64G
335S00079	1	NAND, 1YNM, 64GX8, S3E, 128G, H, SLGA70	U1500	CRITICAL	NAND_128G

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00074	335S00039	NAND_16G	U1500	HYNIX 16G SLGA70 C DIE
335S00078	335S00075	NAND_64G	U1500	HYNIX 64G SLGA70
335S00064	335S00075	NAND_64G	U1500	SANDISK 64G SLGA70 1Z
335S00065	335S00079	NAND_128G	U1500	SANDISK 128G SLGA70

Carbon BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	NOSTUFF
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	CARBON_INVENSENSE
338S00017	1	CARBON, INVENSENSE	U3010	CRITICAL	CARBON_INVENSENSE
338S00087	1	CARBON, INVENSENSE MPU-6800	U3010	CRITICAL	CARBON_INVENSENSE_6800

Power Inductor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00118	152S00075	ALTERNATE	\$?	IND, PMB, SHLD, 1, 2, 1H, 3, 5A, 0, 6000 OHM, 2010
152S00120	152S00077	ALTERNATE	\$?	IND, PMB, SHLD, 1, 0, 1H, 2, 25A, 0, 150 OHM, 2010
152S2052	152S1929	ALTERNATE	\$?	IND, MLT, 12M, 1, 2A, 0, 320 OHM, 0603

DDR PLL Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00095	155S00068	ALTERNATE	FL1200	FERR, 00, 1000MH, 220L, 1000M, 200M, 01005

SEP EEPROM Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00066	335S0946	ALTERNATE	U0900	IC, EEPROM, 512Kb, 1, 1V, 12C, MLCPM, 0605H

Low Noise Caps

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
138S0067	3	CAP, XSR, 30UF, 20%, 6, 3V, 0, 65PM, HIZTL, 0402	C2085, C2086, C2087	CAPS_NORMAL
998-01223	3	CAP, XSR, 30UF, 20%, 6, 3V, 0, 65PM, 0402, TMTPOSER	C2085, C2086, C2087	CAPS_LOW_NOISE

Schematic & PCB Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-00094	1	SCH, SINGLE_BRD, N66	SCH	CRITICAL	?
820-00040	1	PCBF, SINGLE_BRD, N66	PCB	CRITICAL	?
825-6838	1	EEEE CODE FOR 639-00299	EEEE_G300	CRITICAL	EEEE_BETTER_DB30
825-6838	1	EEEE CODE FOR 639-00301	EEEE_G35W	CRITICAL	EEEE_ULTRA_DB30
825-6838	1	EEEE CODE FOR 639-00302	EEEE_G35V	CRITICAL	EEEE_SUPREME_DB30
825-6838	1	EEEE CODE FOR 639-01063	EEEE_GKKY	CRITICAL	EEEE_BETTER_B30
825-6838	1	EEEE CODE FOR 639-01064	EEEE_GKL0	CRITICAL	EEEE_ULTRA_B30
825-6838	1	EEEE CODE FOR 639-01065	EEEE_GKL1	CRITICAL	EEEE_SUPREME_B30
825-6838	1	EEEE CODE FOR 939-01539	EEEE_GPMW	CRITICAL	EEEE_BETTER_DARWIN

Global Capacitor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
118S0764	118S0717	ALTERNATE	?	RES, 3, 92K, 0, 1%, 0201
138S0702	138S0657	ALTERNATE	?	CAP, XSR, 4, 3UF, 4V, 0610
138S00006	138S0833	ALTERNATE	?	CAP, 3-TERM, 4, 3UF, 4V, 0402
138S00005	138S00003	ALTERNATE	?	CAP, XSR, 120F, 6, 3V, 0, 65PM, 0402, TAIYO
138S00048	138S00003	ALTERNATE	?	CAP, XSR, 150F, 6, 3V, 0, 65PM, 0402, KYOCERA
138S0648	138S0652	ALTERNATE	?	CAP, XSR, 4, 70F, 6, 3V, 0, 65PM, 0402, TAIYO
132S0400	132S0436	ALTERNATE	?	CAP, XSR, 0, 220F, 6, 3V, 01005, TDK
138S00032	138S0831	ALTERNATE	?	CAP, XSR, 2, 2UF, 6, 3V, 0201, TAIYO
138S00049	138S0831	ALTERNATE	?	CAP, XSR, 2, 2UF, 6, 3V, 0201, KYOCERA
138S00024	138S0906	ALTERNATE	?	IND, DR, 2, 10M, 1, 5M, 10M, 01, 002, 1010/10
138S0706	138S0739	ALTERNATE	?	CAP, CER, 10F, 20V, 10V, XSR, 0201, MURATA
138S0945	138S0739	ALTERNATE	?	CAP, CER, 10F, 20V, 10V, XSR, 0201, KYOCERA

Global Ferrite Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S2052	152S1929	ALTERNATE	?	IND, 1UH, 1.2A, 0003
155S0773	155S0453	ALTERNATE	?	FERR, 1200MH, 0, 800M SCK, 01005
155S0653	155S0511	ALTERNATE	?	FERR, 330MH, 0, 600MH DCR, 0201
155S00067	155S0581	ALTERNATE	?	FERR, 2400MH, 0, 350MH DCR, 0201
155S00012	155S00009	ALTERNATE	?	FLTR, 65 OHMS, 0005
155S0960	155S0941	ALTERNATE	?	FERR, 70 OHMS, 01005
155S0660	155S0513	ALTERNATE	?	FERR, 22 OHMS, 0201

Global Varistor Alternates

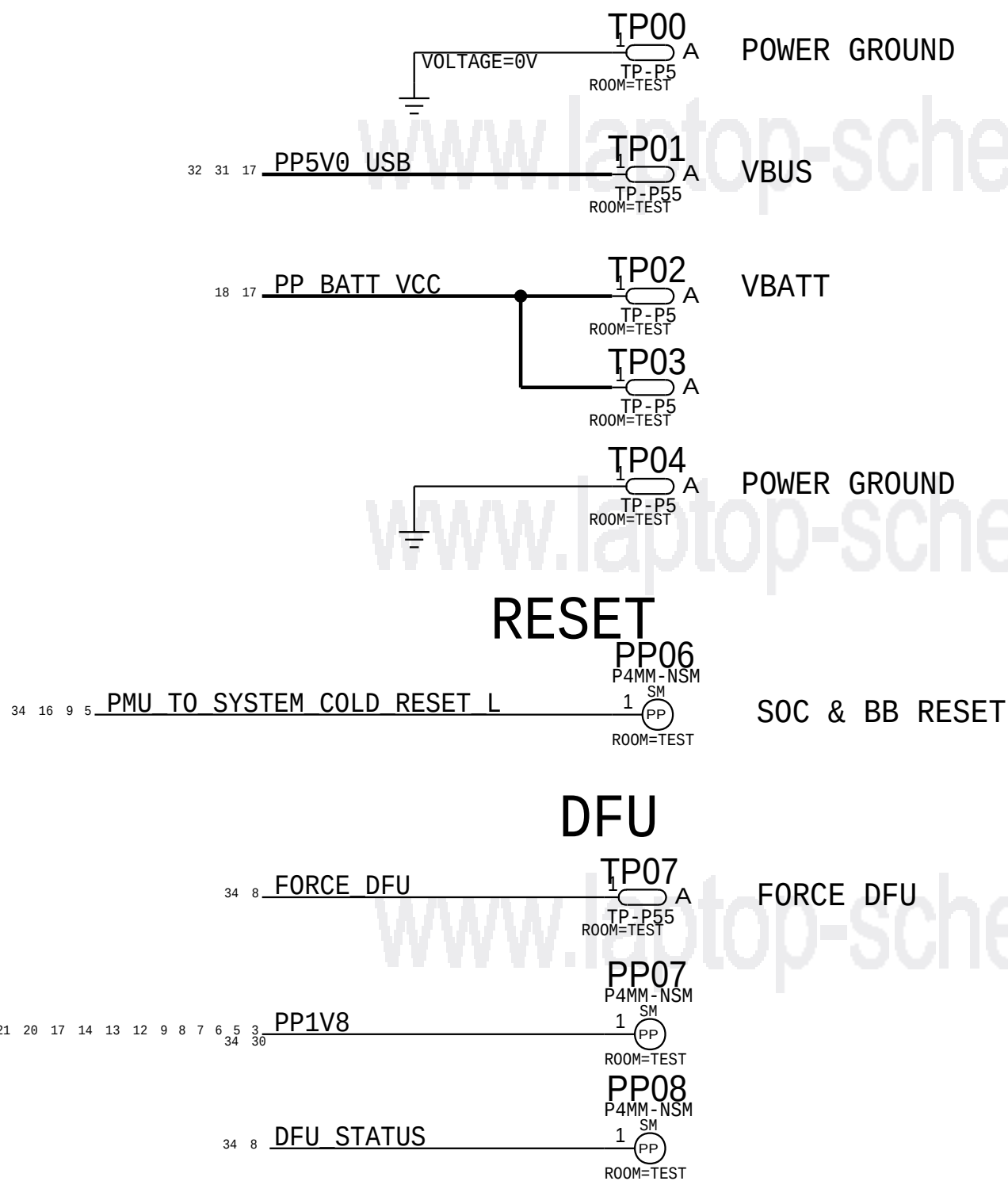
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
377S0160	377S0140	ALTERNATE	?	VARISTOR, 6, 8V, 100PF, 01005

Inductor Sub BOMs

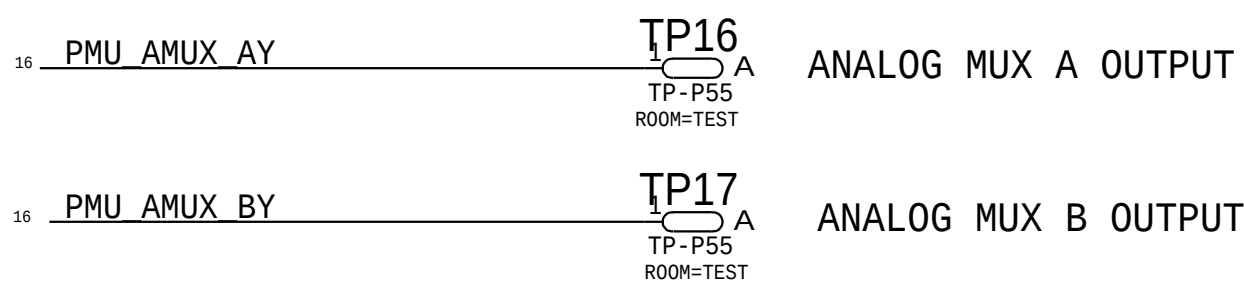
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
605-00083	1	SUBBOM, SINGLE_BRD, CYNTEC, N66	SUBBOM_IND	COMMON
152S00074	12	IND, PMB, SHLD, 1, 0H, 3, 5A, 0, 0000 OHM, 2010		CYNTEC
152S00081	6	IND, PMB, SHLD, 0, 470H, 3, 5A, 0, 040 OHM, 2012	L2001, L2003,	

TESTPOINTS

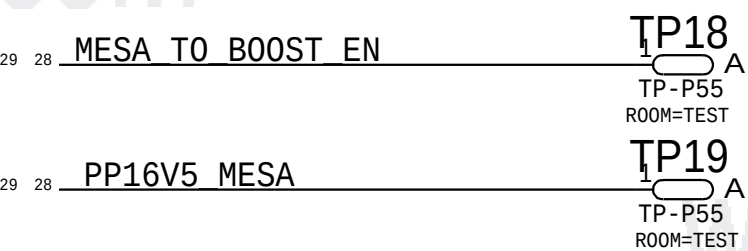
POWER



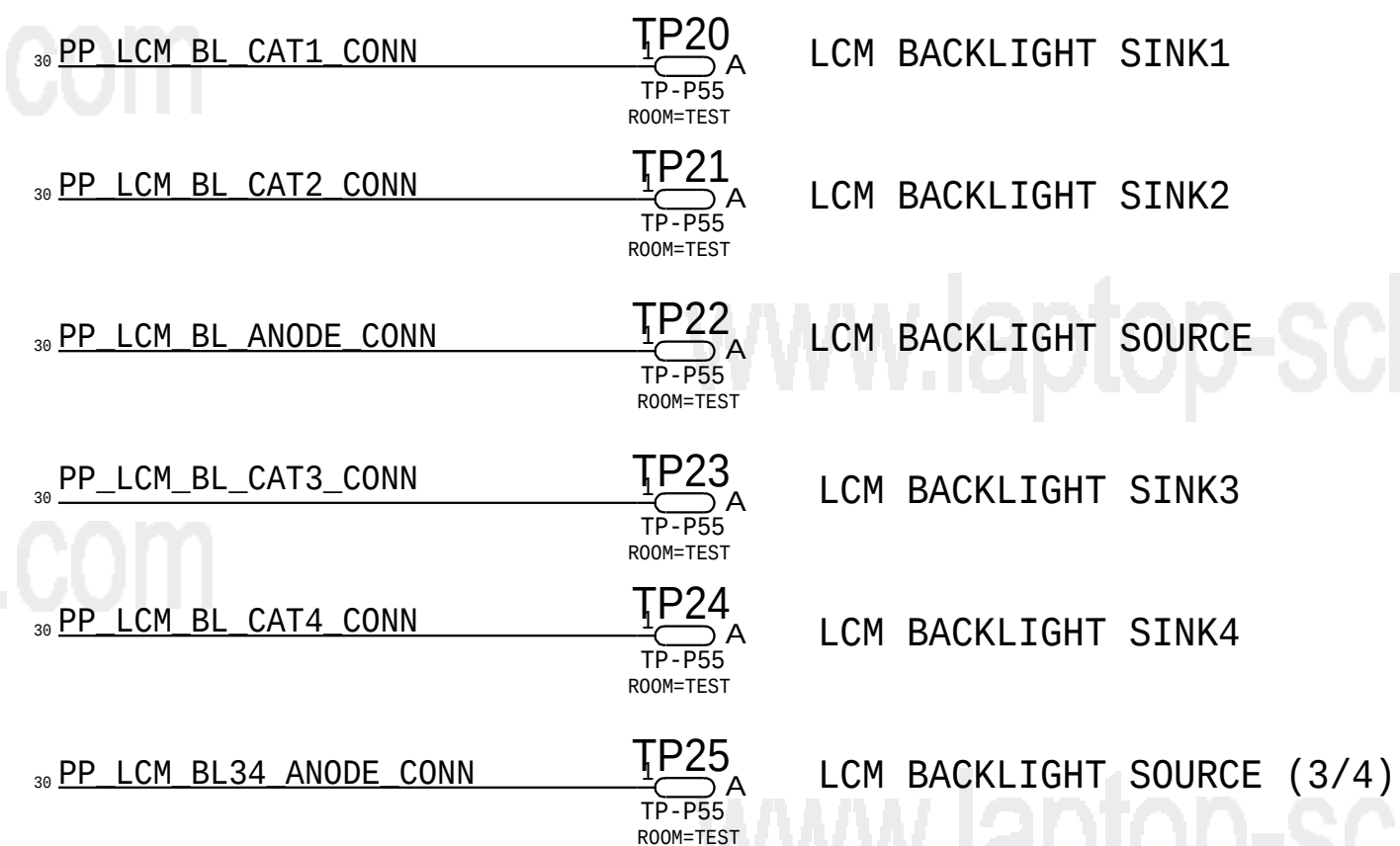
AMUX



MOJAVE



LCM



UAT GND Ring Opening



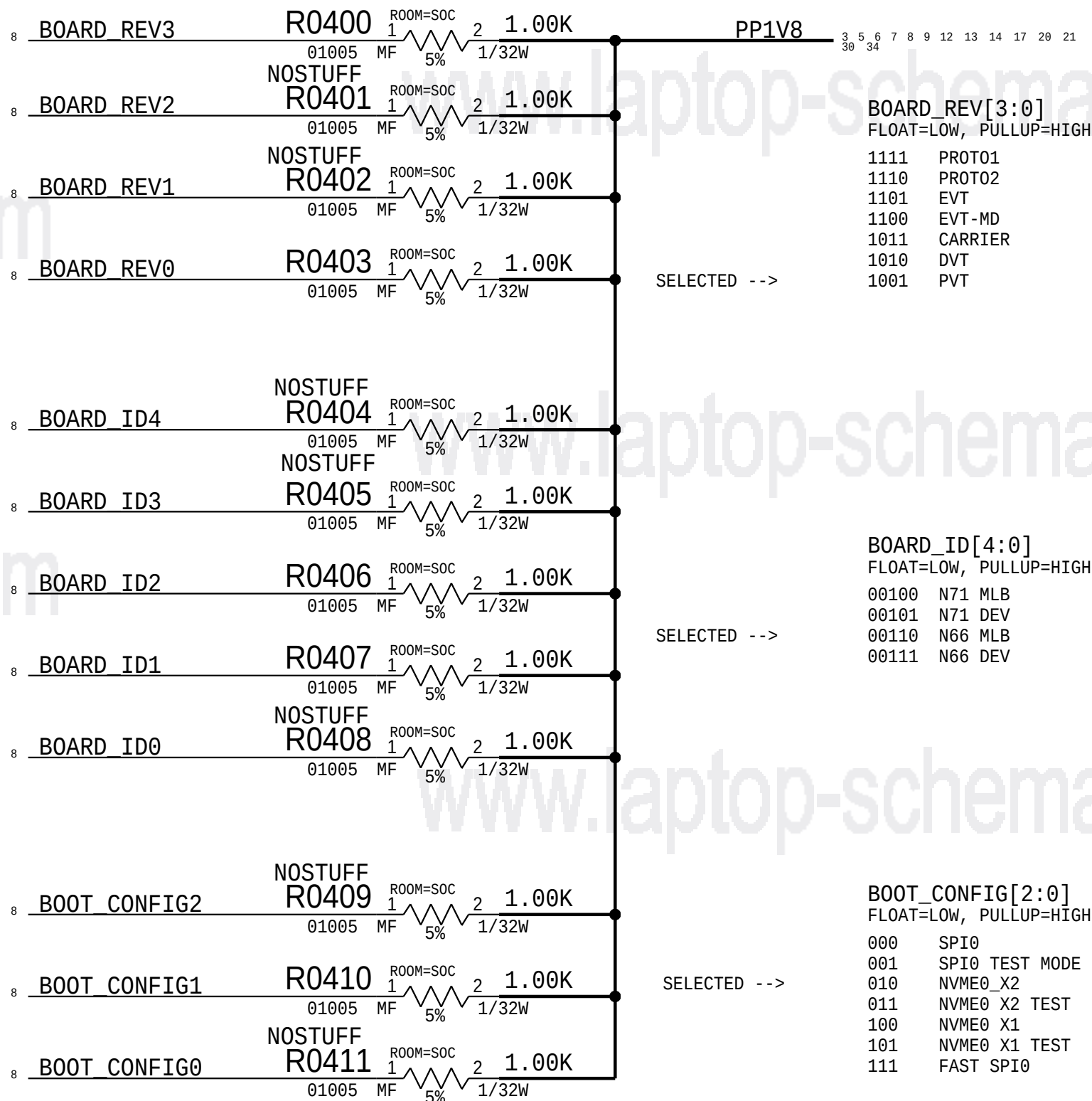
N66 I2C DEVICE MAP

I2C BUS	DEVICE	BINARY	7-BIT HEX	8-BIT HEX
I2C0	ANTIGUA PMU	1110100X	0X74	0XE8
	CHESTNUT	0100111X	0X27	0X4E
	BACKLIGHT 1	1100011X	0X62	0XC4
I2C1	TIGRIS	1110101X	0X75	0XEA
	ARC DRIVER	1000001X	0X41	0X82
	SPEAKER AMP	1000000X	0X40	0X80
	TRISTAR	0011010X	0X1A	0X34
I2C2	ALS	0101001X	0X29	0X52
	DISP EEPROM	1010001X	0X51	0XA2
	BACKLIGHT 2	1100011X	0X62	0XC4
OWL	UNUSED	N/A	N/A	N/A
ISP I2C0	REAR CAM	TBD	TBD	TBD
	LED DRIVER	1100011X	0X63	0XC6
ISP I2C1	FRONT CAM	0010000X	0X10	0X20
TOUCH I2C	MESON	1000000X	0x40	0x80
	MAMBA	1100000X	0x60	0xc0
	DOPPLER	1011000X	0x58	0xB0
SEP I2C	SEP EEPROM	1010001X	0x51	0xA2

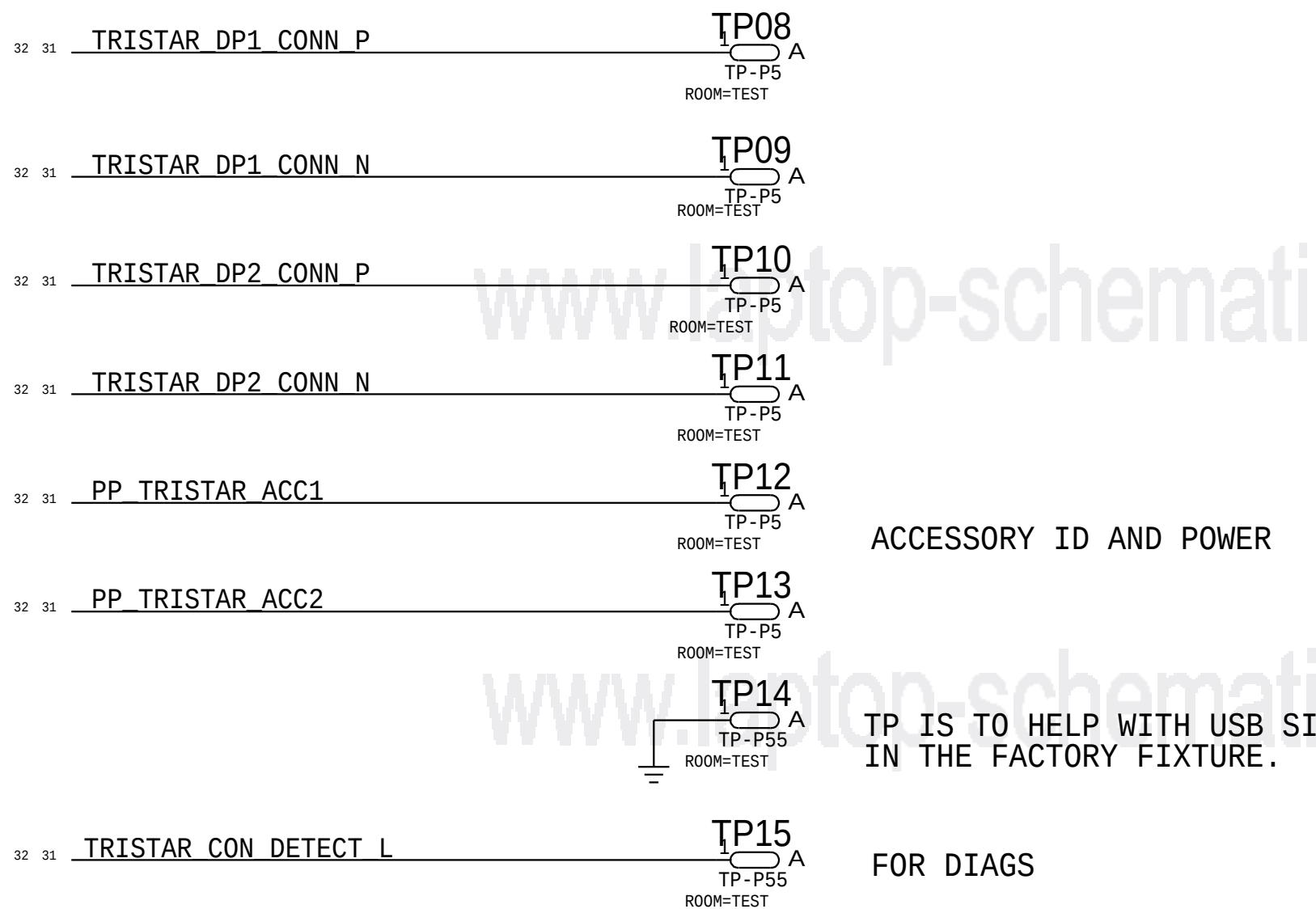
BOOTSTRAPPING:BOARD REV

BOARD ID

BOOT CONFIG

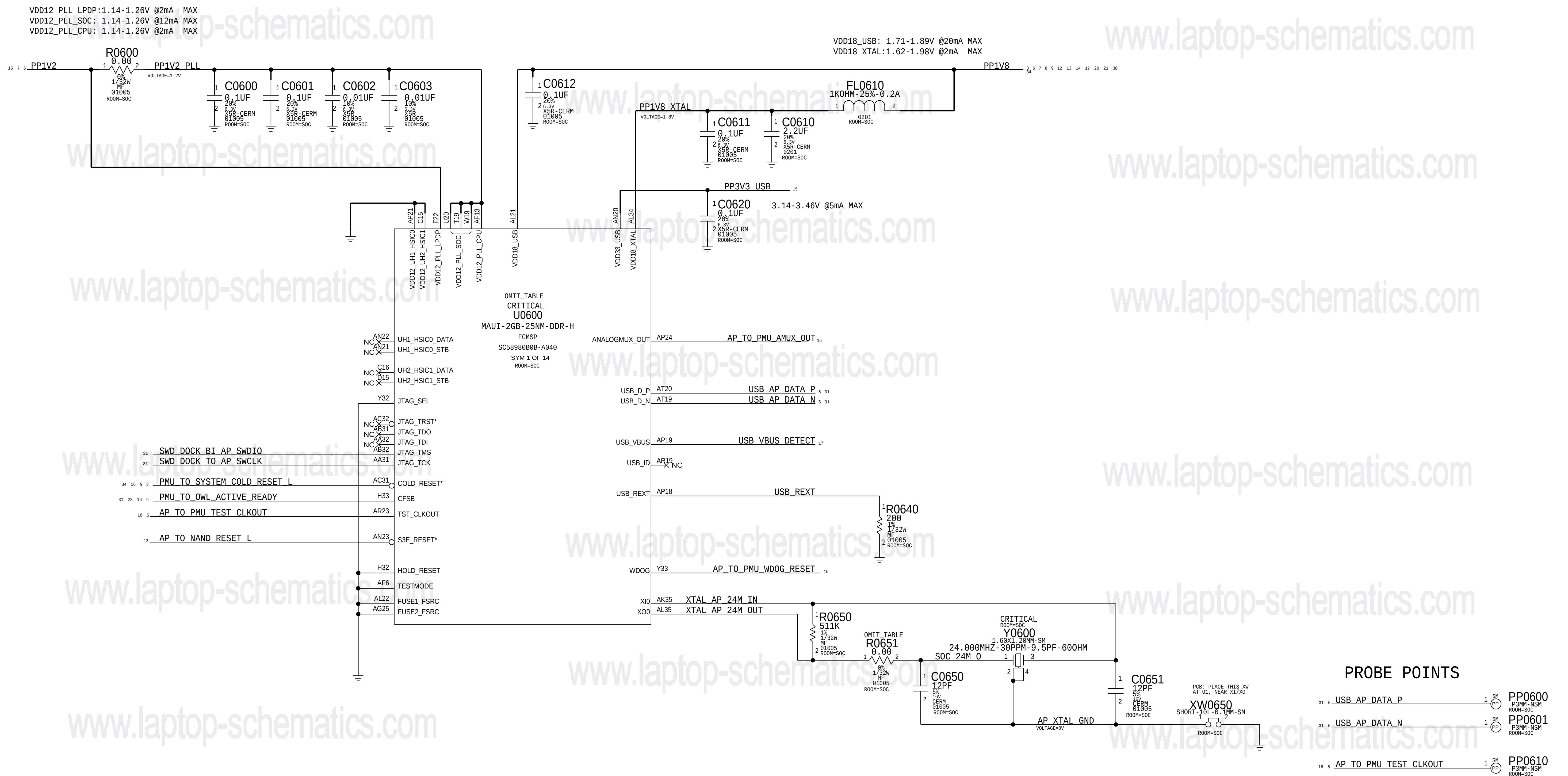


E75



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		PAGE	4 OF 49
		SHEET	3 OF 60

MAUI - USB, JTAG, XTAL



SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
PAGE TITLE			
SOC : JTAG, USB, XTAL			
 Apple Inc.	DRAWING NUMBER		SIZE
	051-00094		D
	REVISION		
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BRANCH			
PAGE	6 OF 49		
SHEET	5 OF 60		

MAUI - PCIE INTERFACES

VDD12_PCIE_REFBUF:1.08-1.26V @50mA MAX
VDD12_PCIE_TXPLL: 1.08-1.32V @10mA MAX
VDD12_PCIE: 1.14-1.26V @115mA MAX
PP1V2

VDD085_PCIE:0.802-TBDV @TBDmA MAX

PP_FIXED

PCIE LINK 0

PCIE LINK 1

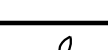
PCIE LINK 2

OMIT_TABLE
CRITICAL
U0600
MAUI-2GB-25NM-DDR-H
FCMSP
SC58980B0B-A040
SYM 2 OF 14
ROOM=SOC

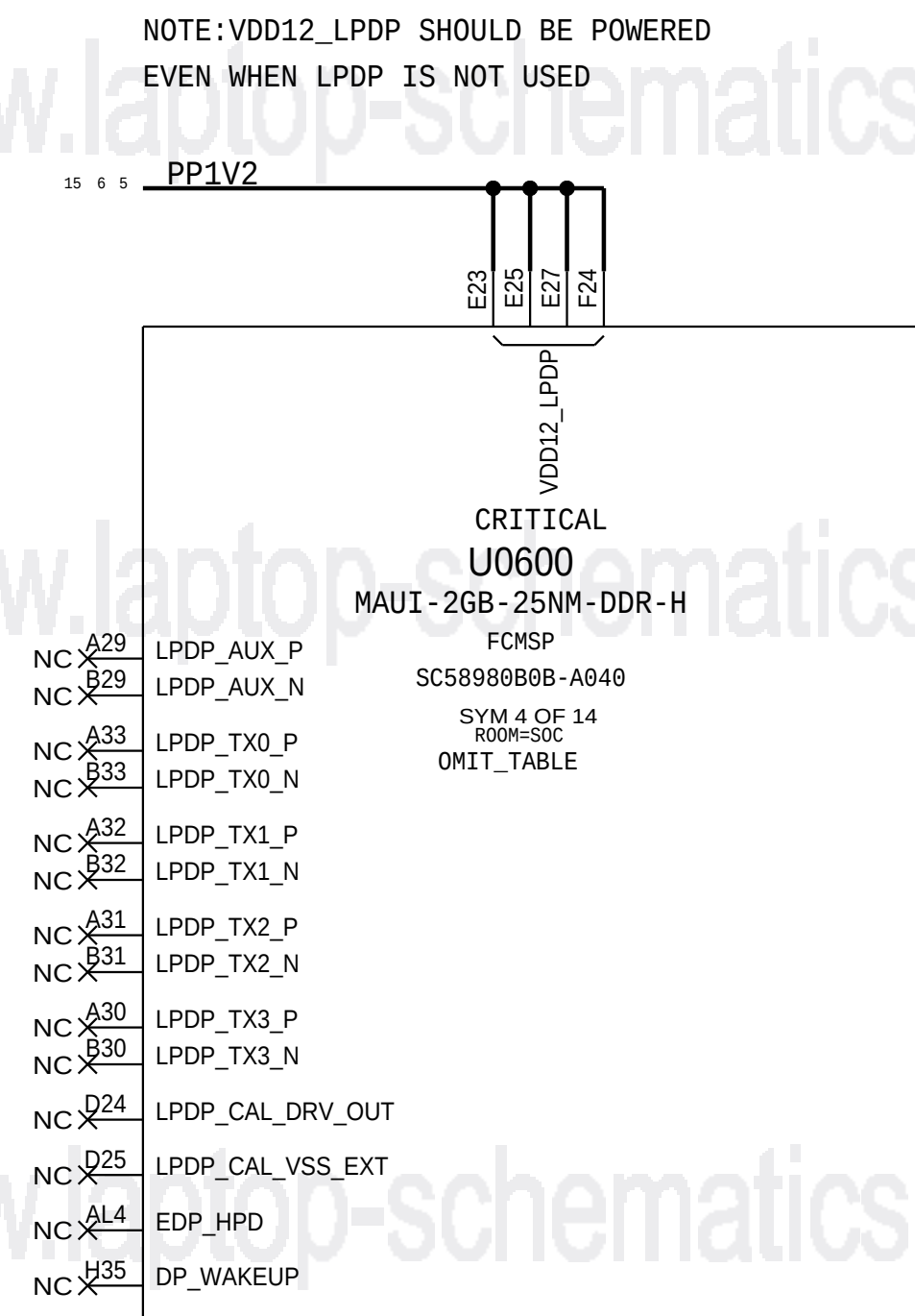
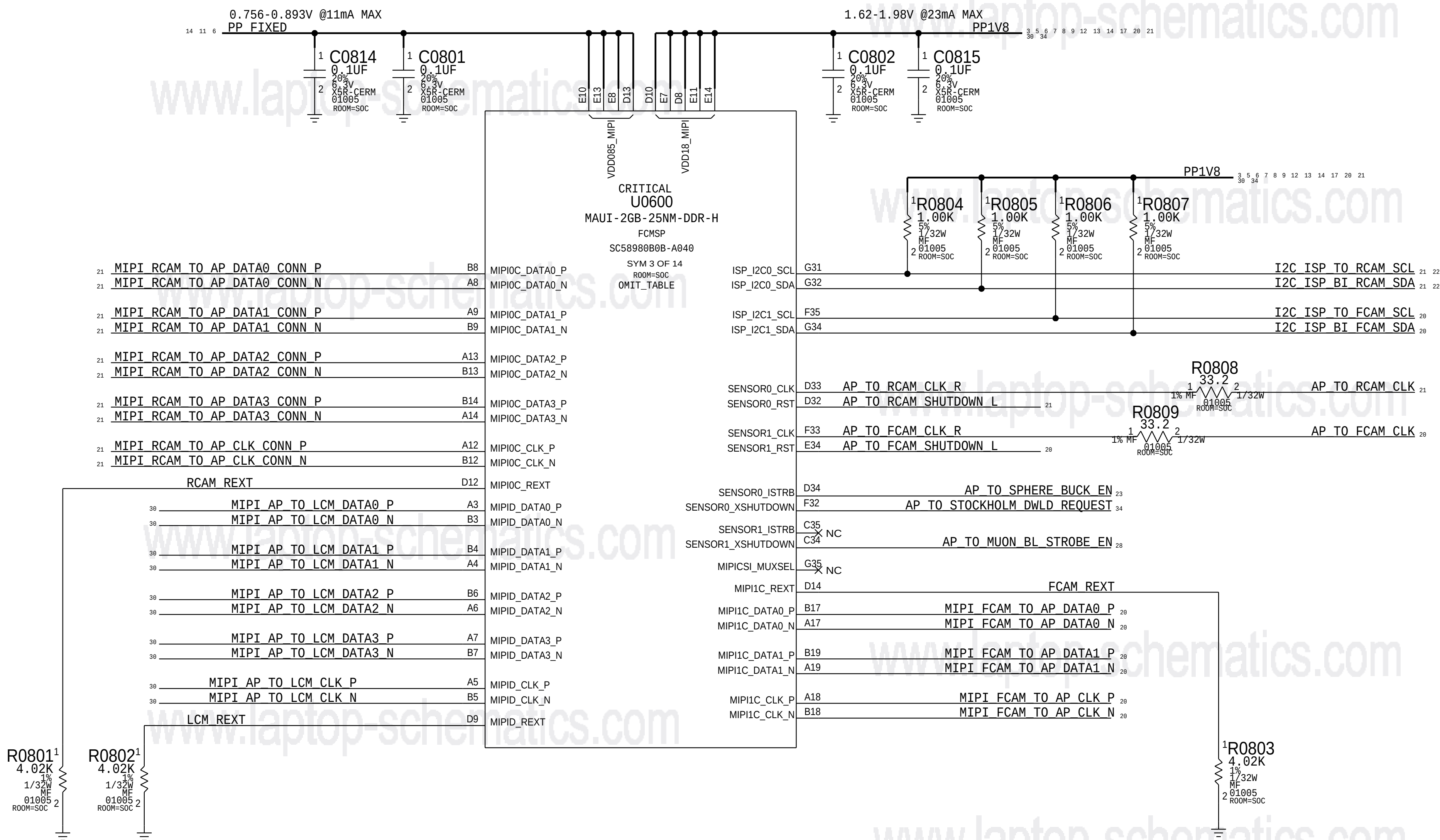
PROBE POINTS

PCIE RX CAPS ARE PLACED CLOSER TO TX DRIVERS
PROBE POINTS ADDED FOR MEASUREMENTS AT RX DRIVER

PCIE_BB_TO_AP_RXD_C_P
PCIE_BB_TO_AP_RXD_C_N

SYNC_MASTER=N71 SINGLE BRD		SYNC_DATE=05/29/2014	
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		SHEET	6 OF 60

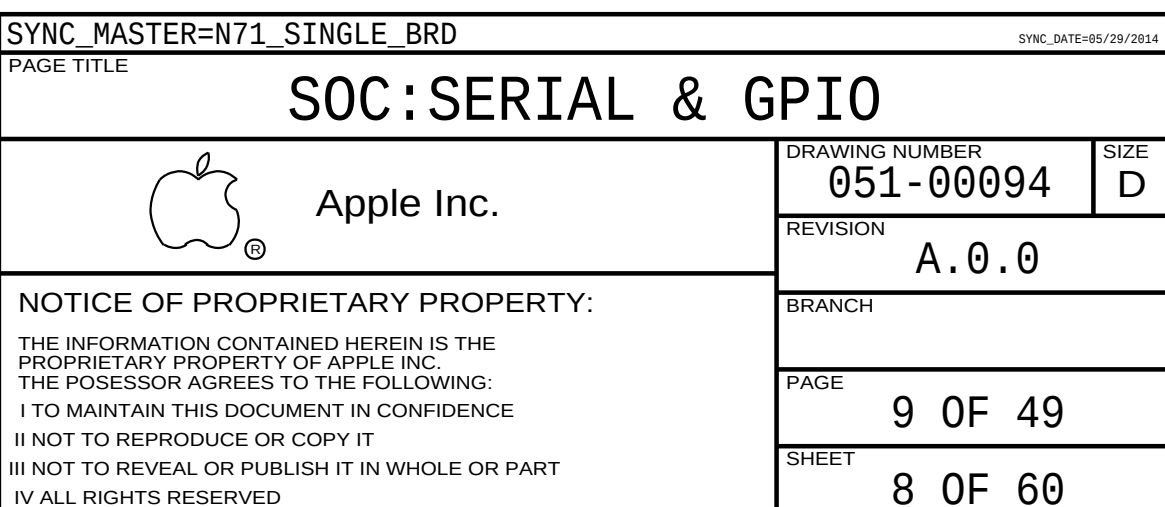
MAUI - CAMERA & DISPLAY INTERFACES



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PAGE TITLE			
SOC:CAMERA & DISPLAY			
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Apple Inc.		REVISION	A.0.0
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		8 OF 49	
		SHEET	
		7 OF 60	

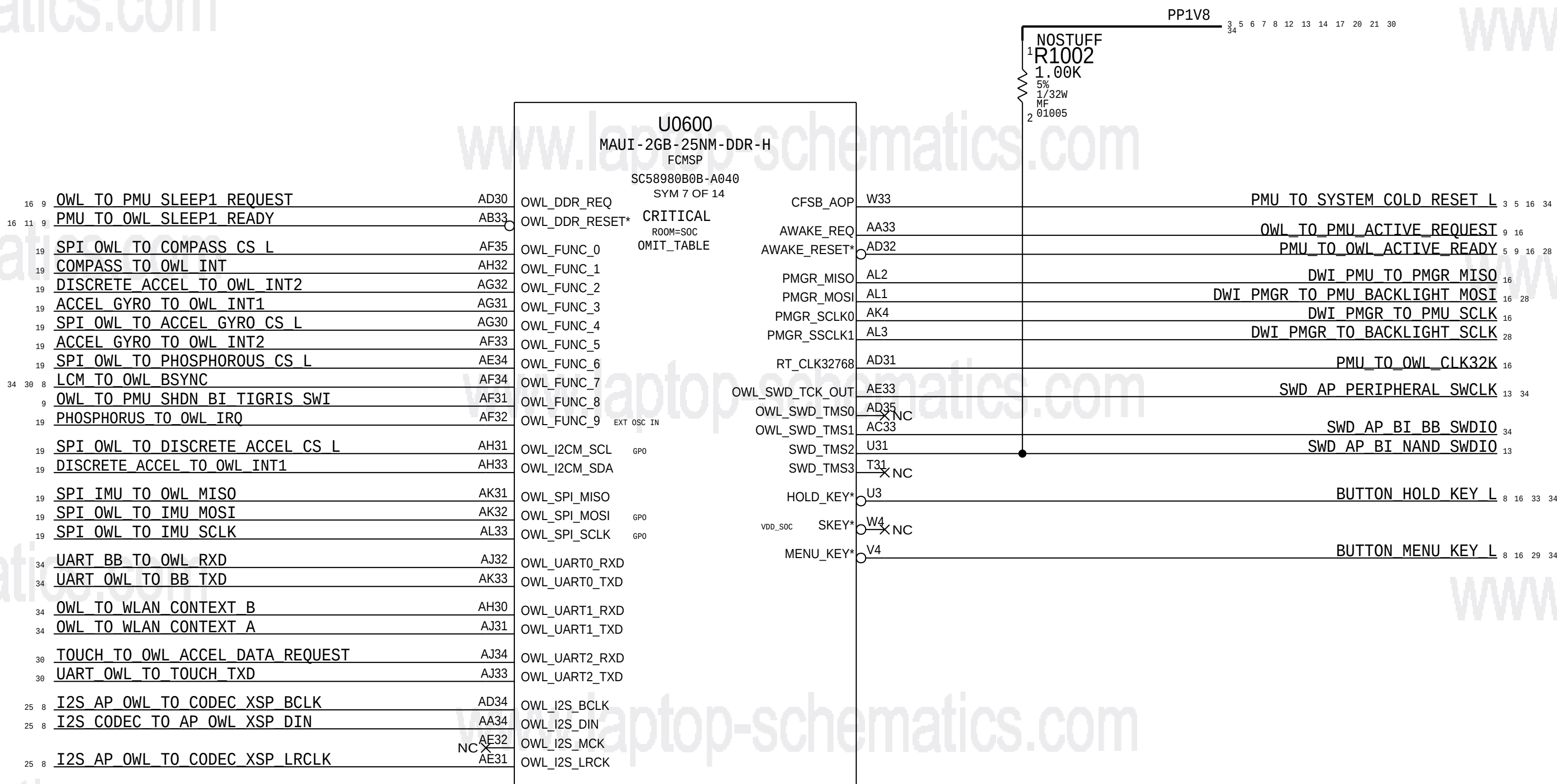
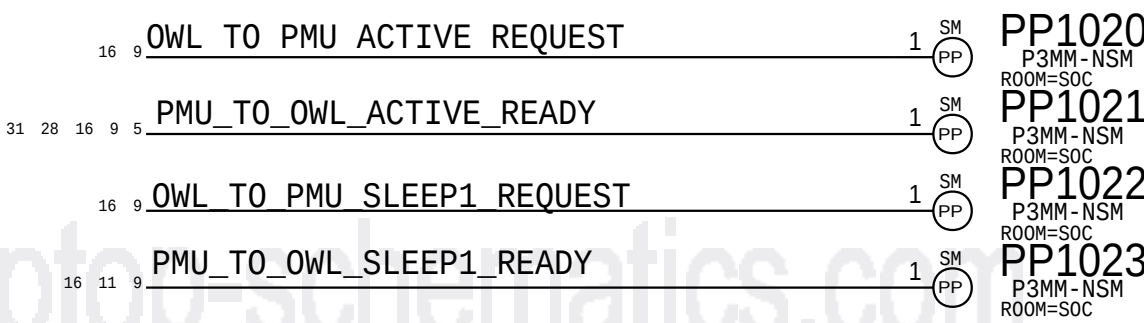


ANTI-ROLLBACK EEPROM
128kbit
APN:335S0946

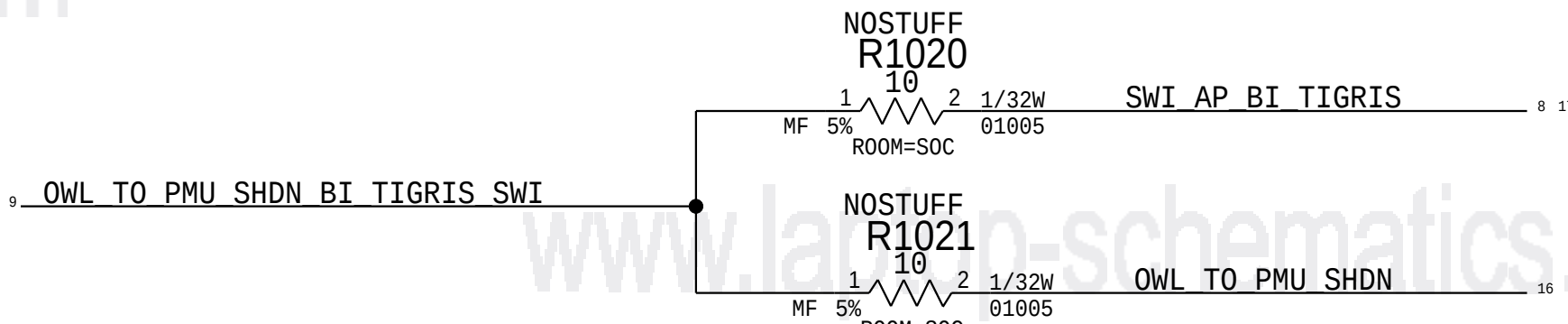


MAUI - OWL

POWER STATE CONTROL PROBE POINTS

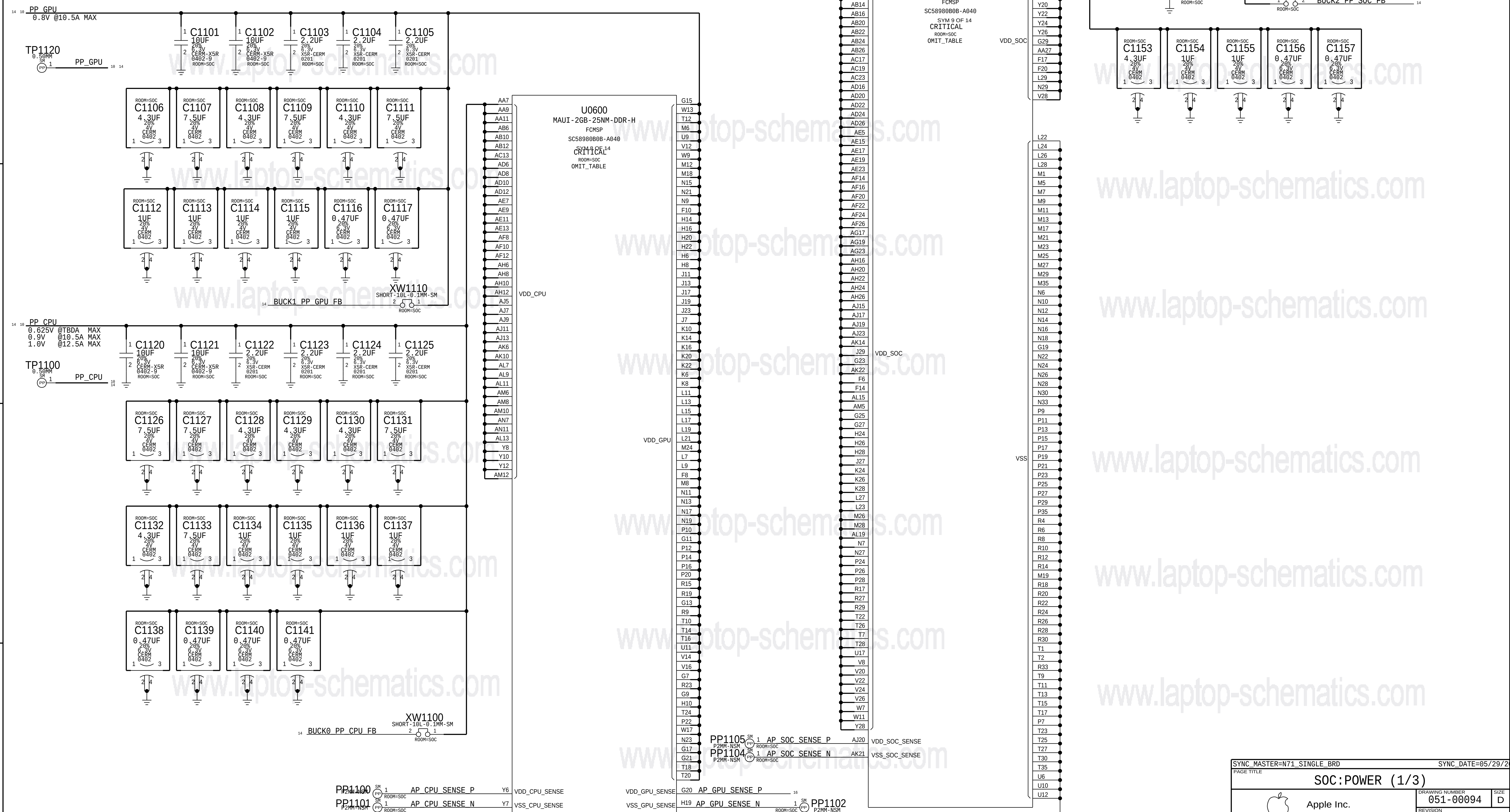


OWL SYSTEM SHUTDOWN OPTION



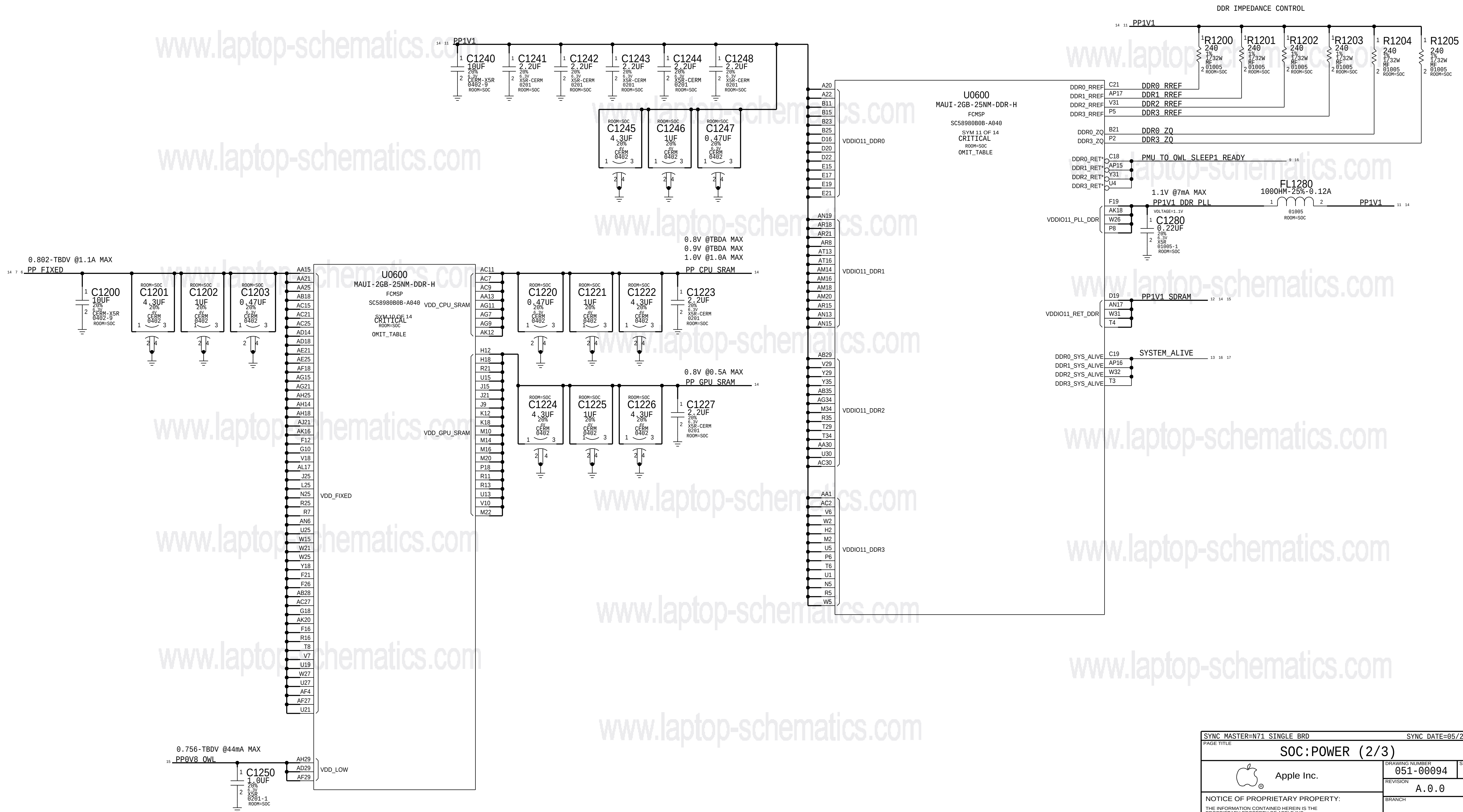
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		PAGE	10 OF 49
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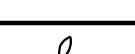
MAUI - CPU, GPU & SOC RAILS



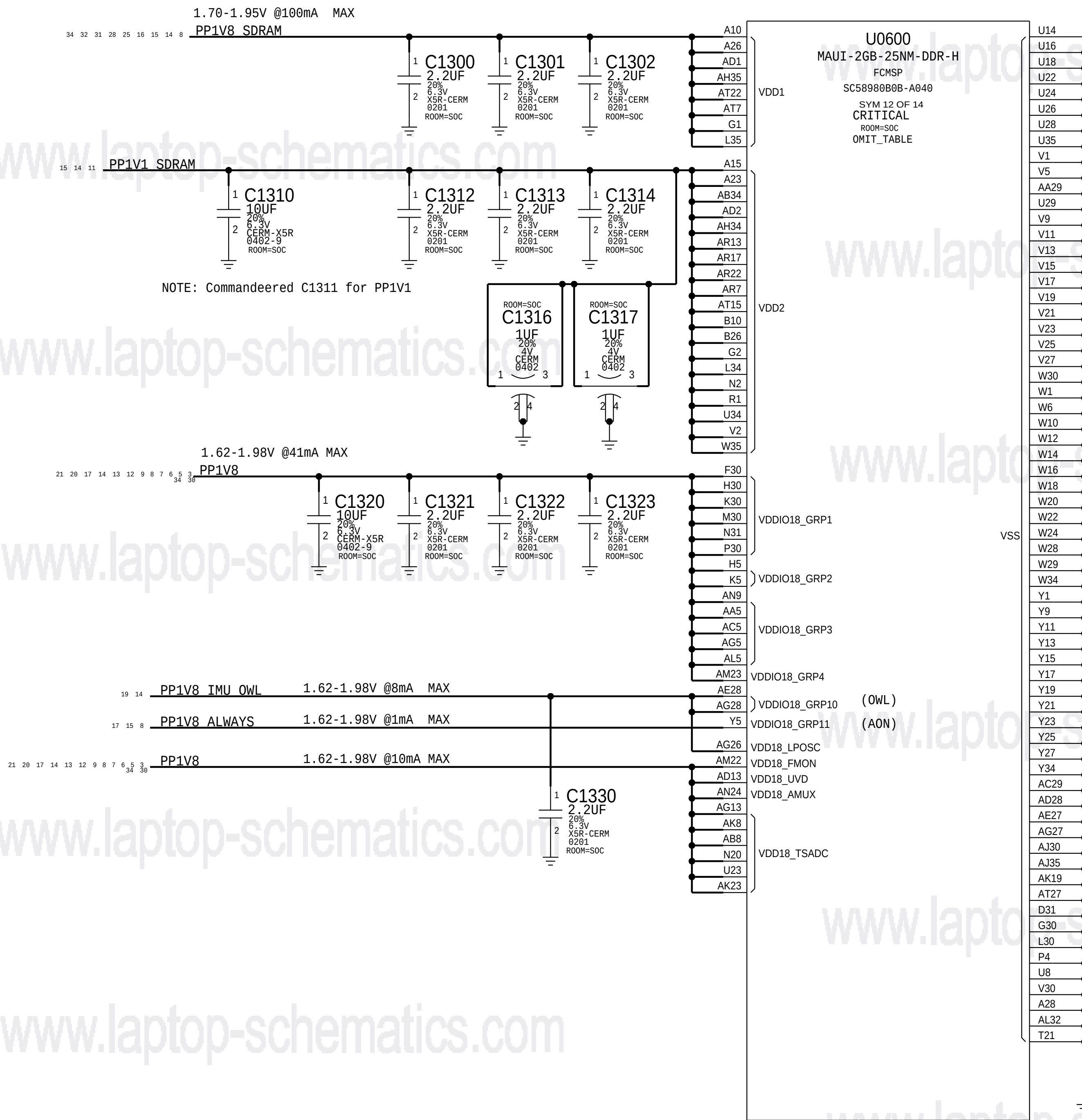
NOTE: AP_GPU_SENSE_P probe location @ R2205.2

MAUI - POWER SUPPLIES

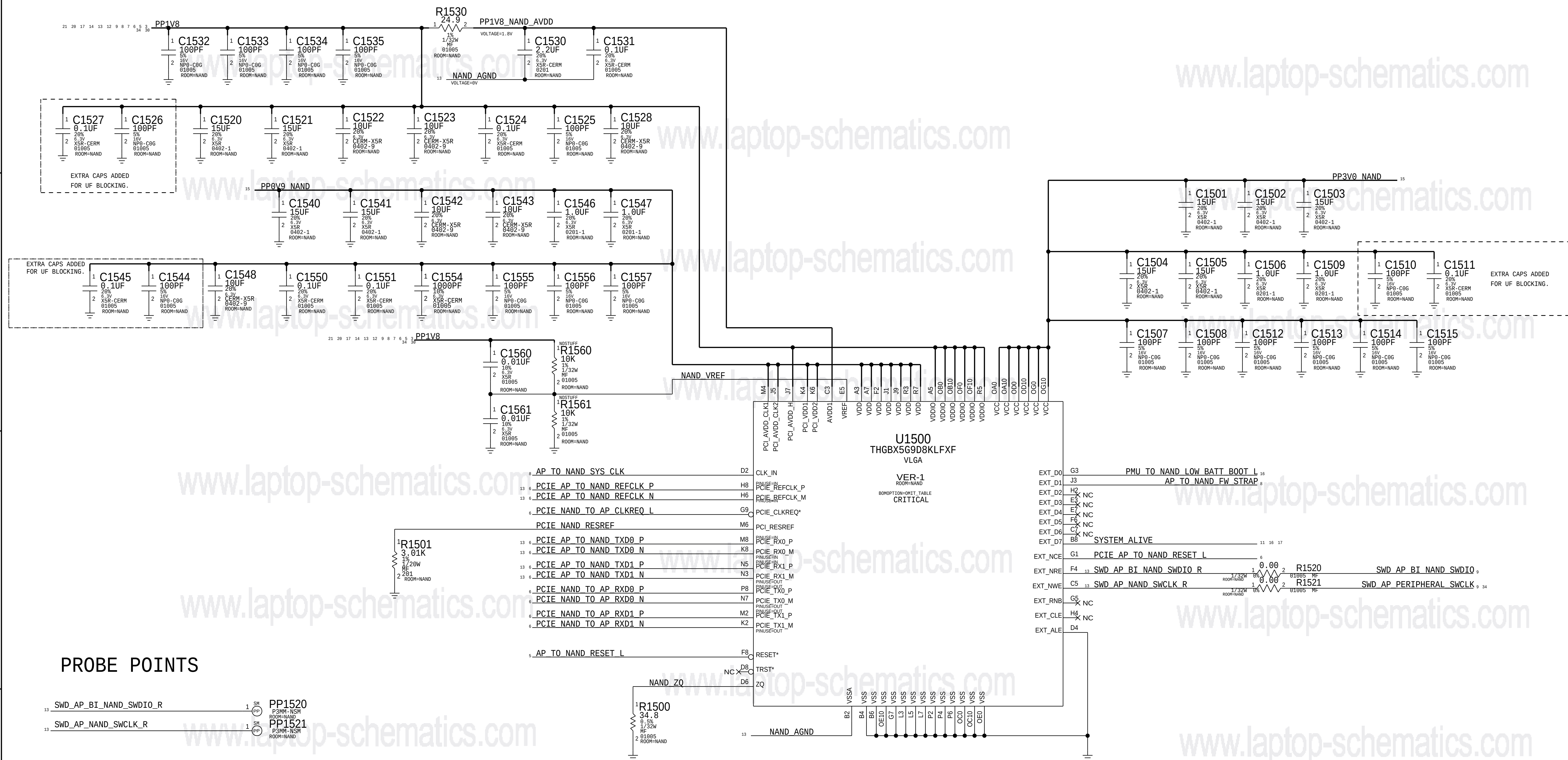


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	PAGE		
12 OF 49			SHEET
11 OF 60			

MAUI - POWER SUPPLIES



S3E NAND

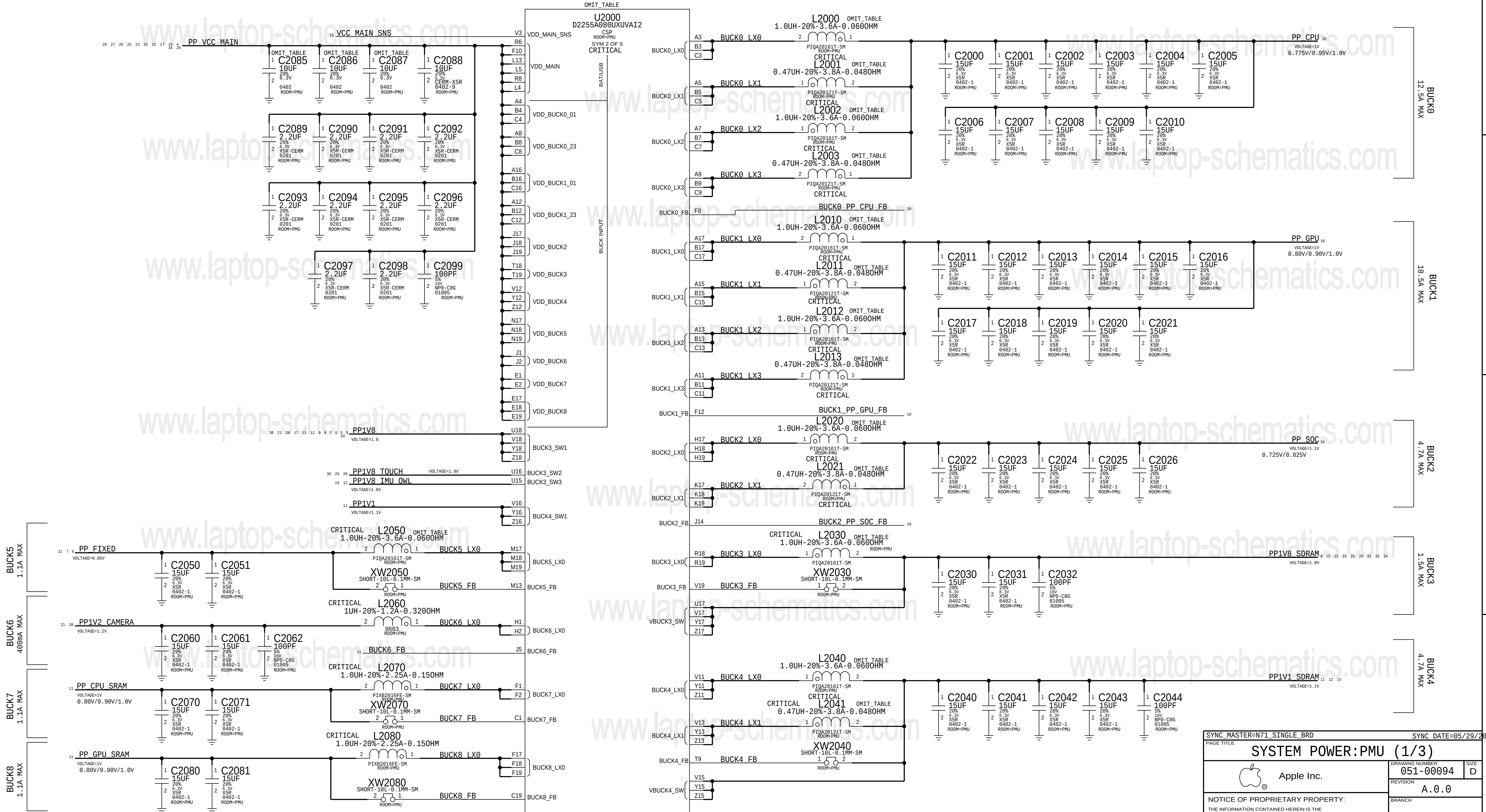
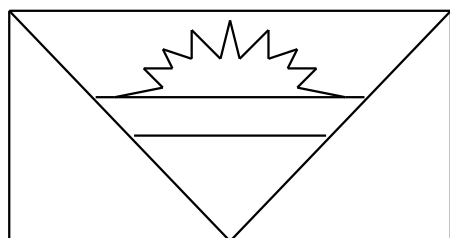


PROBE POINTS

SWD_AP_BI_NAND_SWDIO_R	1	SM	PP1520
SWD_AP_NAND_SWCLK_R	1	SM	PP1521
PCIE_AP_TO_NAND_REFCLK_P	1	SM	PP1500
PCIE_AP_TO_NAND_REFCLK_N	1	SM	PP1501
PCIE_AP_TO_NAND_TXD0_P	1	SM	PP1502
PCIE_AP_TO_NAND_TXD0_N	1	SM	PP1503
PCIE_AP_TO_NAND_TXD1_P	1	SM	PP1504
PCIE_AP_TO_NAND_TXD1_N	1	SM	PP1505

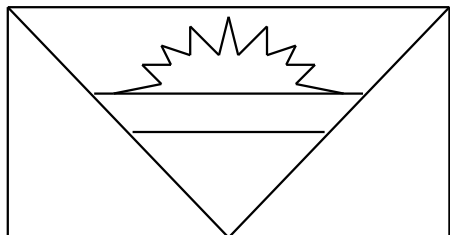
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I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE		15 OF 49	
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III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART		13 OF 60	
IV ALL RIGHTS RESERVED			

ANTIGUA PMU - Buck Supplies



SYNC_MASTER=N71_SINGLE_BRD		SYNC DATE=05/29/2014	
PAGE TITLE			
SYSTEM POWER:PMU (1/3)			
 Apple Inc.		DRAWING NUMBER	051-00094
		REVISION	A.0.0
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		SHEET	14 OF 60

ANTIGUA PMU - LD0s



ANTIGUA LDO SPECS

LDO#	ADJ. RANGE	ACCURACY	MAX. CURRENT
LD01 (A)	2.5-3.3V	+/-1.4%	50mA
LD02 (B)	1.2-2.0V	+/-2.5%	50mA
LD03 (A)	2.5-3.3V	+/-1.4%	50mA
LD04 (D)	0.7-1.2V	+/-2.5%	100mA
LD05 (F)	2.5-3.3V	+/-2.5%	1000mA
LD06 (C1)	1.2-3.6V	+/-2.5%	150mA
LD07 (C)	2.5-3.3V	+/-25mV	250mA
LD08 (C)	2.5-3.3V	+/-25mV	250mA
LD09 (C)	2.5-3.3V	+/-25mV	250mA
LD10 (G)	0.7-1.2V	+/-5.5%	1335mA
LD11 (C)	2.5-3.3V	+/-25mV	250mA
LD12 (E)	1.8V	+/-5%	10mA
LD13 (C)	2.5-3.3V	+/-25mV	250mA
LD14 (H)	0.8-1.5V	+/-2.5%	250mA
LD015 (B)	1.2-2.0V	+/-2.5%	50mA

D

C

B

A

D

C

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SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
PAGE TITLE			
SYSTEM POWER:PMU (2/3)			
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		REVISION	A.0.0
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		SHEET	15 OF 60

NOTE (1):INPUT PULL-DOWN 100-300k
NOTE (2):INPUT PULL-DOWN 1M
NOTE (3):INPUT PULL-UP OR DOWN 100k-300k
NOTE (4):OUTPUT OPEN-DRAIN, REQUIRES PULL-UP



SYNC_MASTER=N/A		SYNC_DATE=N/A	
PAGE TITLE			
SYSTEM POWER:PMU (3/3)			
 Apple Inc.		DRAWING NUMBER 051-00094	SIZE D
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		PAGE 22 OF 49	
		SHEET 16 OF 60	

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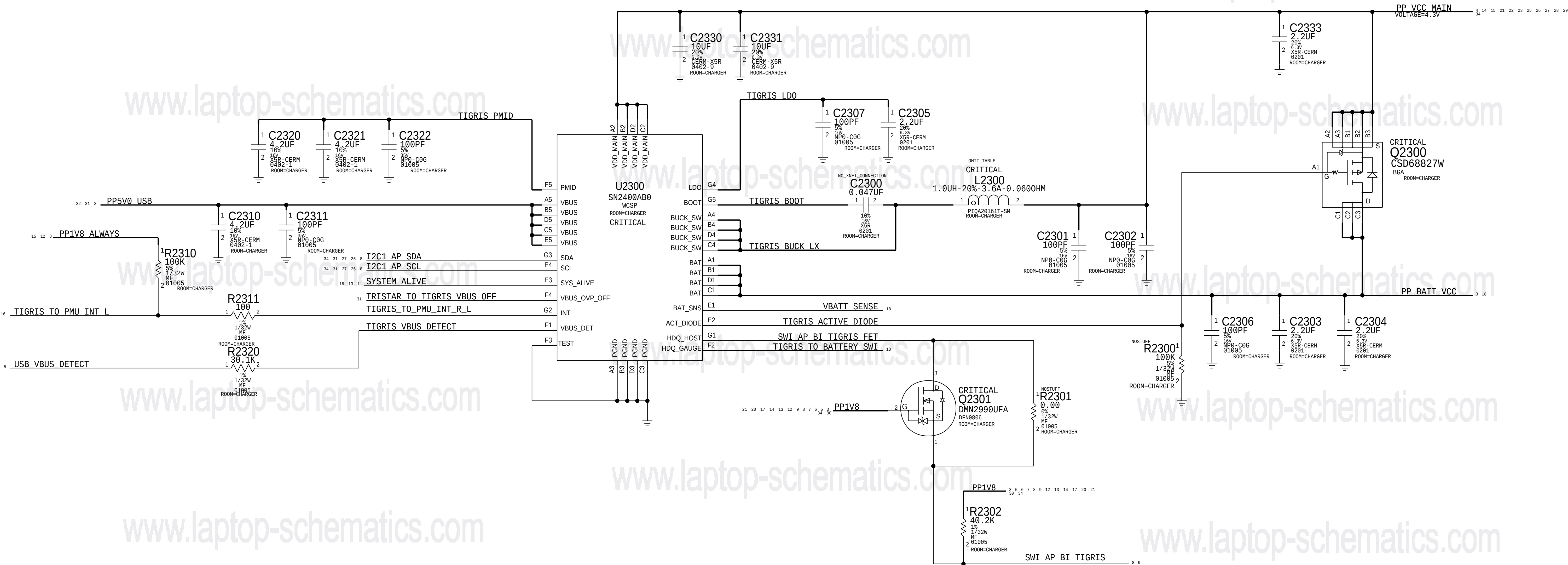
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TIGRIS CHARGER

APN:343S00033



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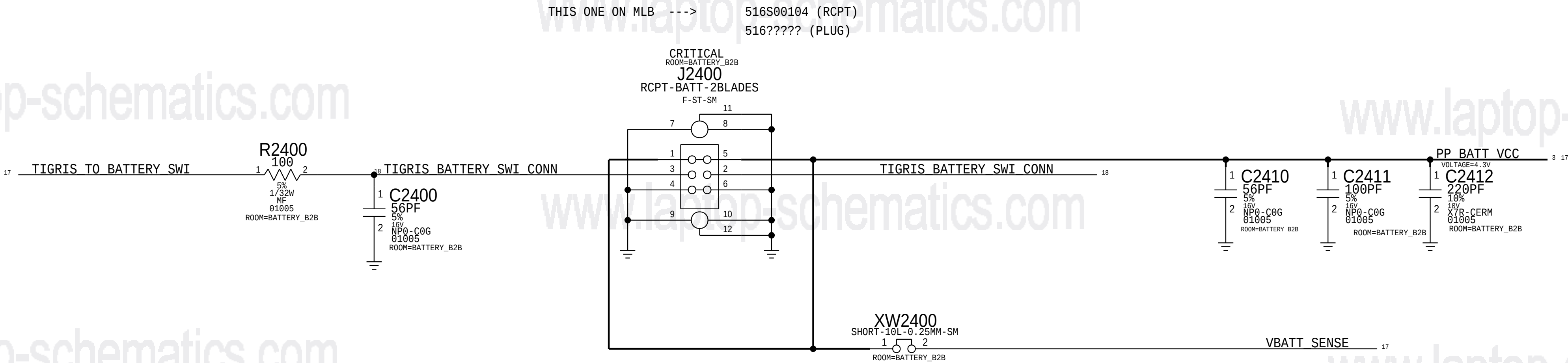
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BATTERY CONNECTOR



SYNC_MASTER=N71_SINGLE_BRD		SYNC DATE=04/29/2014	
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 Apple Inc.	DRAWING NUMBER	051-00094	SIZE D
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		PAGE 24 OF 49	
		SHEET 18 OF 60	

CARBON - ACCEL & GYRO

INVENSENSE, MPU-6700 (APN 338S00017): C3013=0.1UF
INVENSENSE, MPU-6800 (APN 338S00087): C3013=0.1UF

MAGNESIUM - COMPASS

APN:338S00084

PHOSPHOROUS

BOSCH (APN:338S00044)

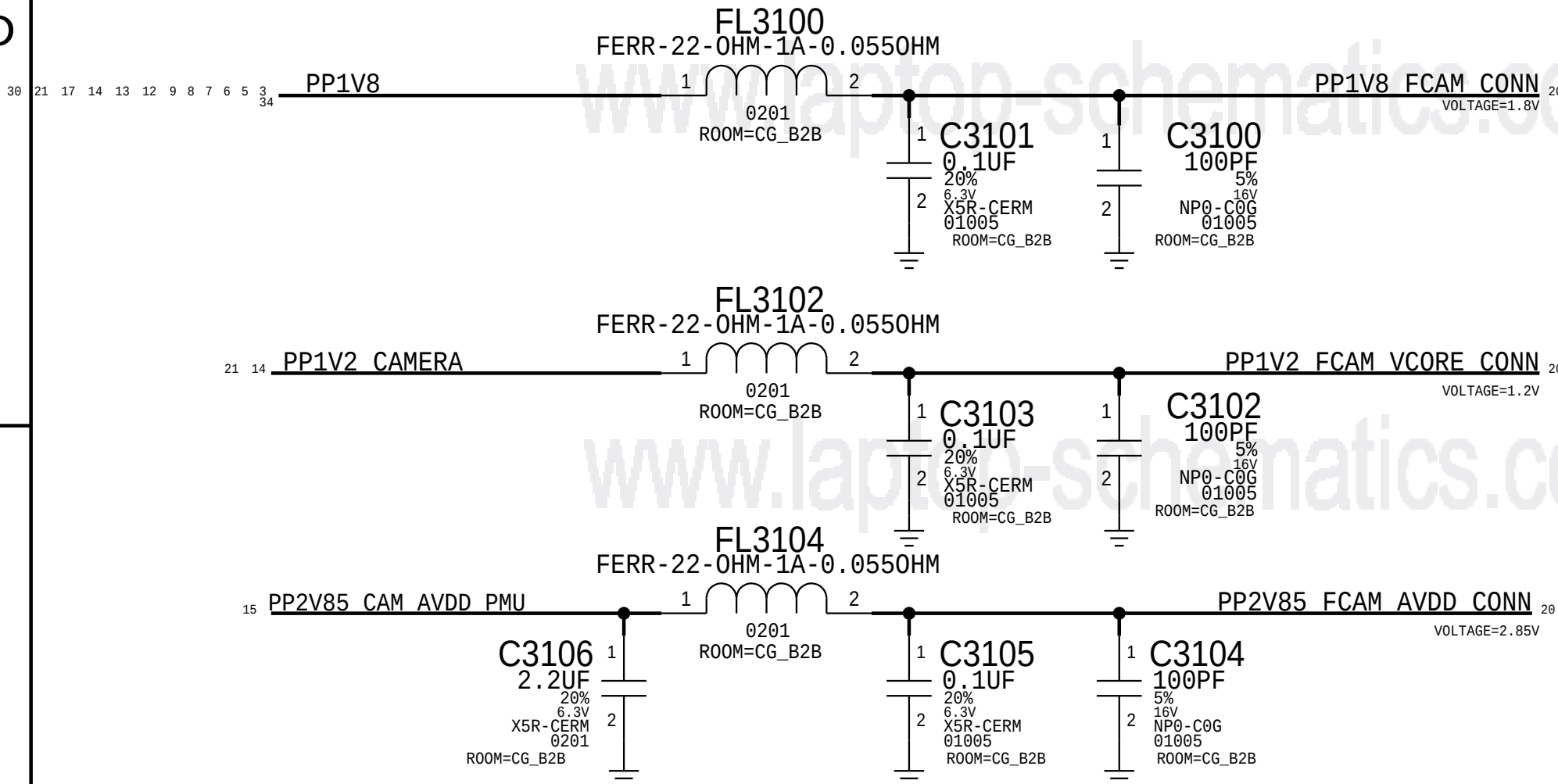
DISCRETE ACCEL

BOSCH APN 338S1163
NO-STUFF for Invensense DOE

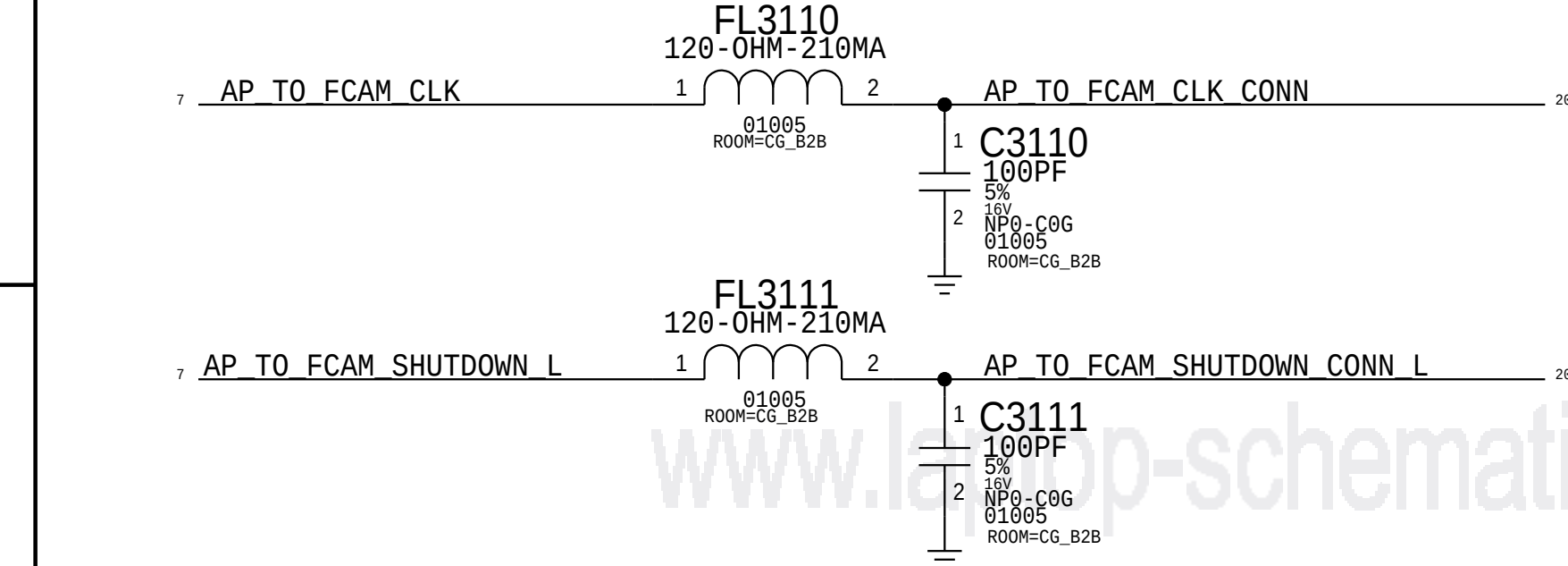
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FRONT CAMERA FLEX

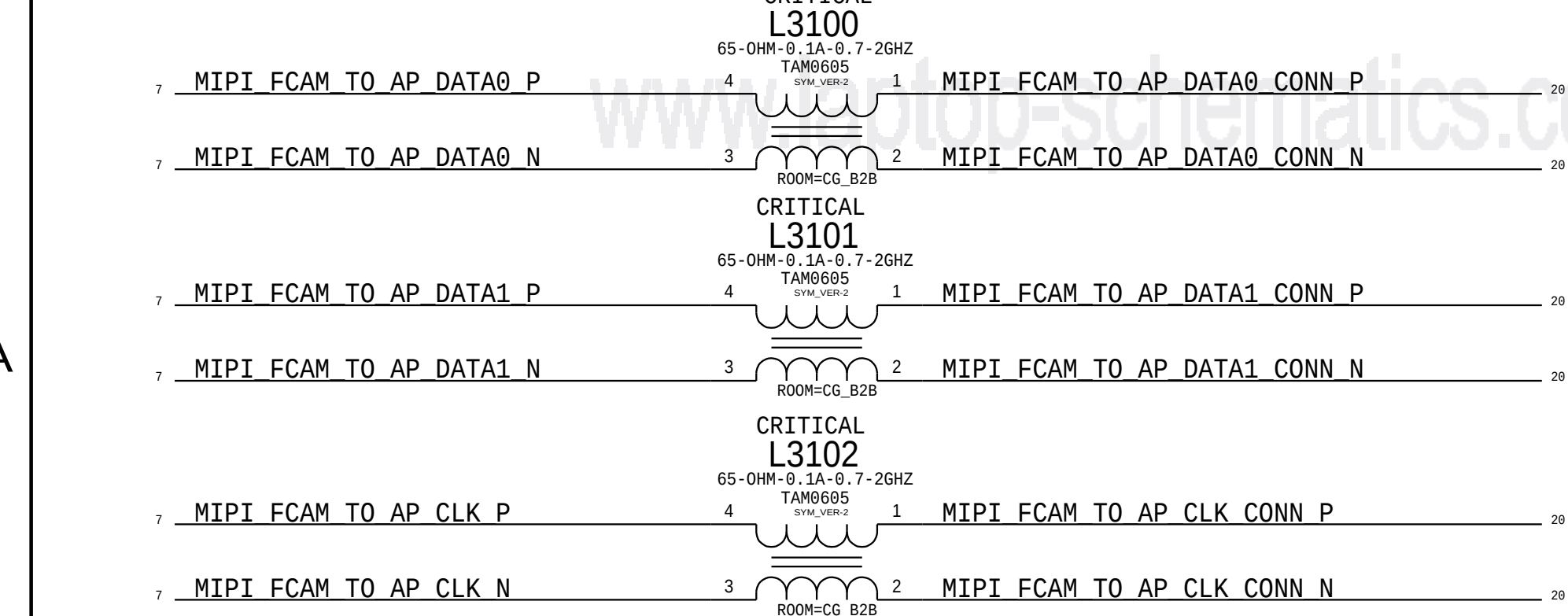
CAMERA POWER



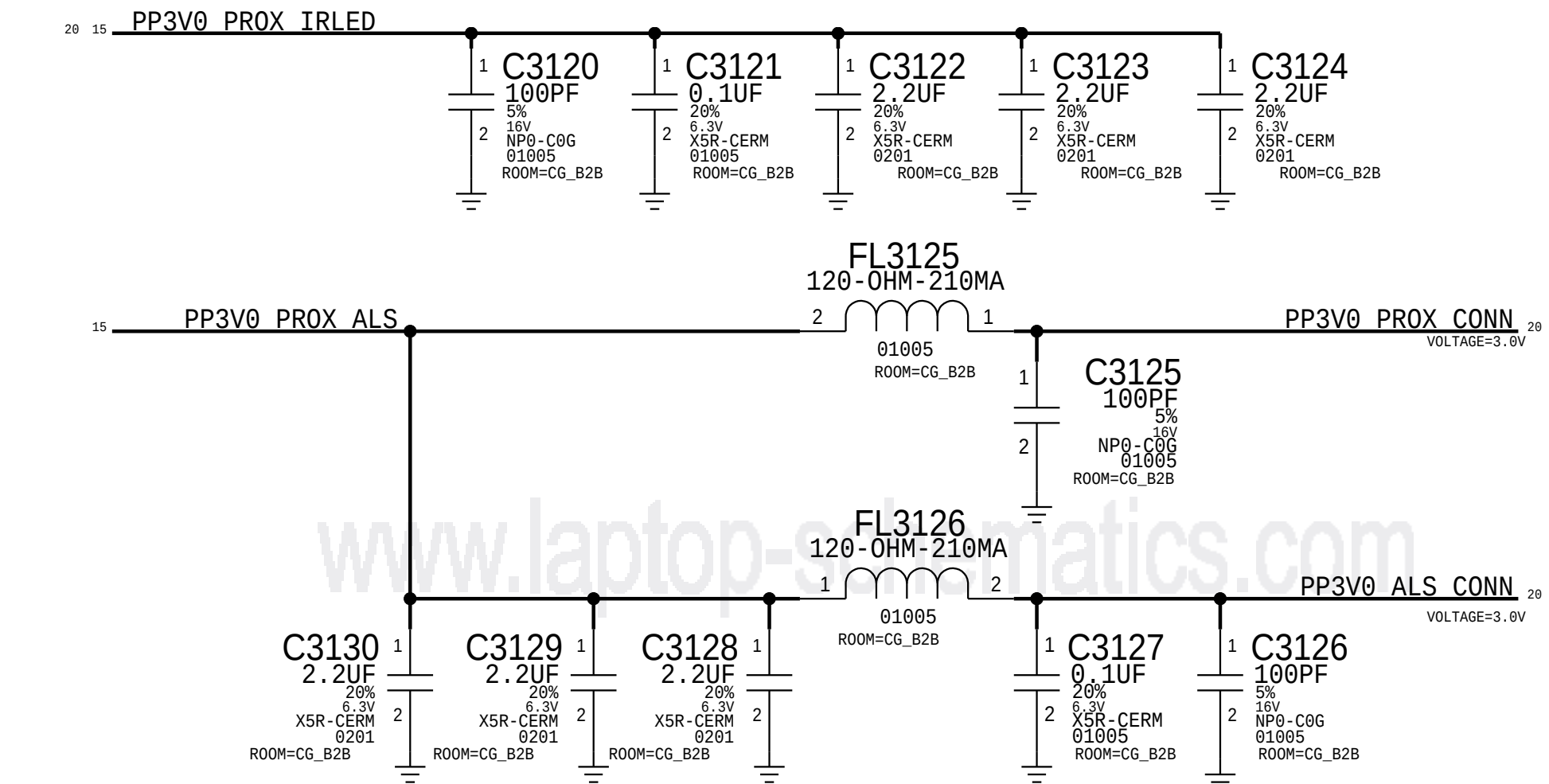
CAMERA I/O



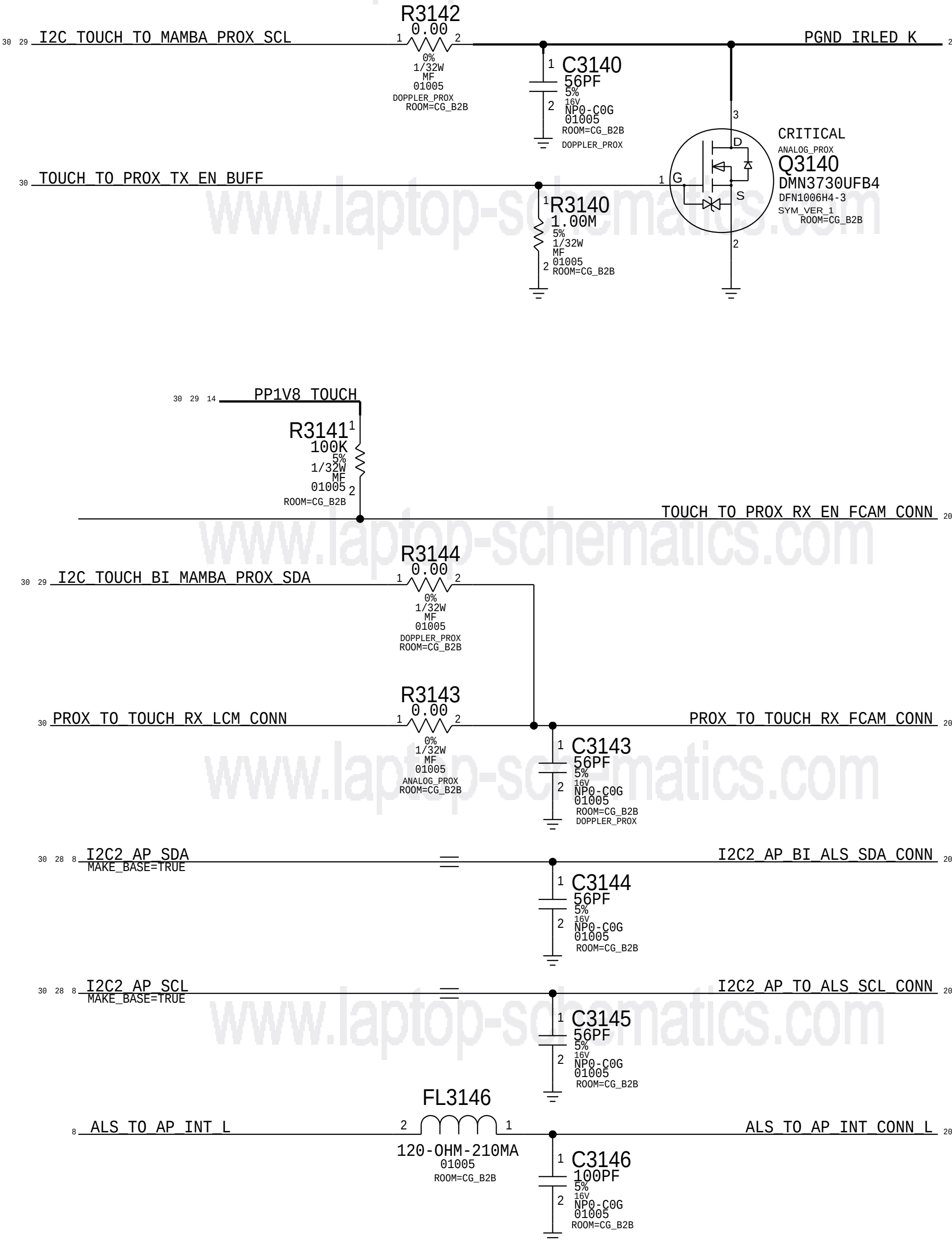
CAMERA MIPI



PROX & ALS POWER

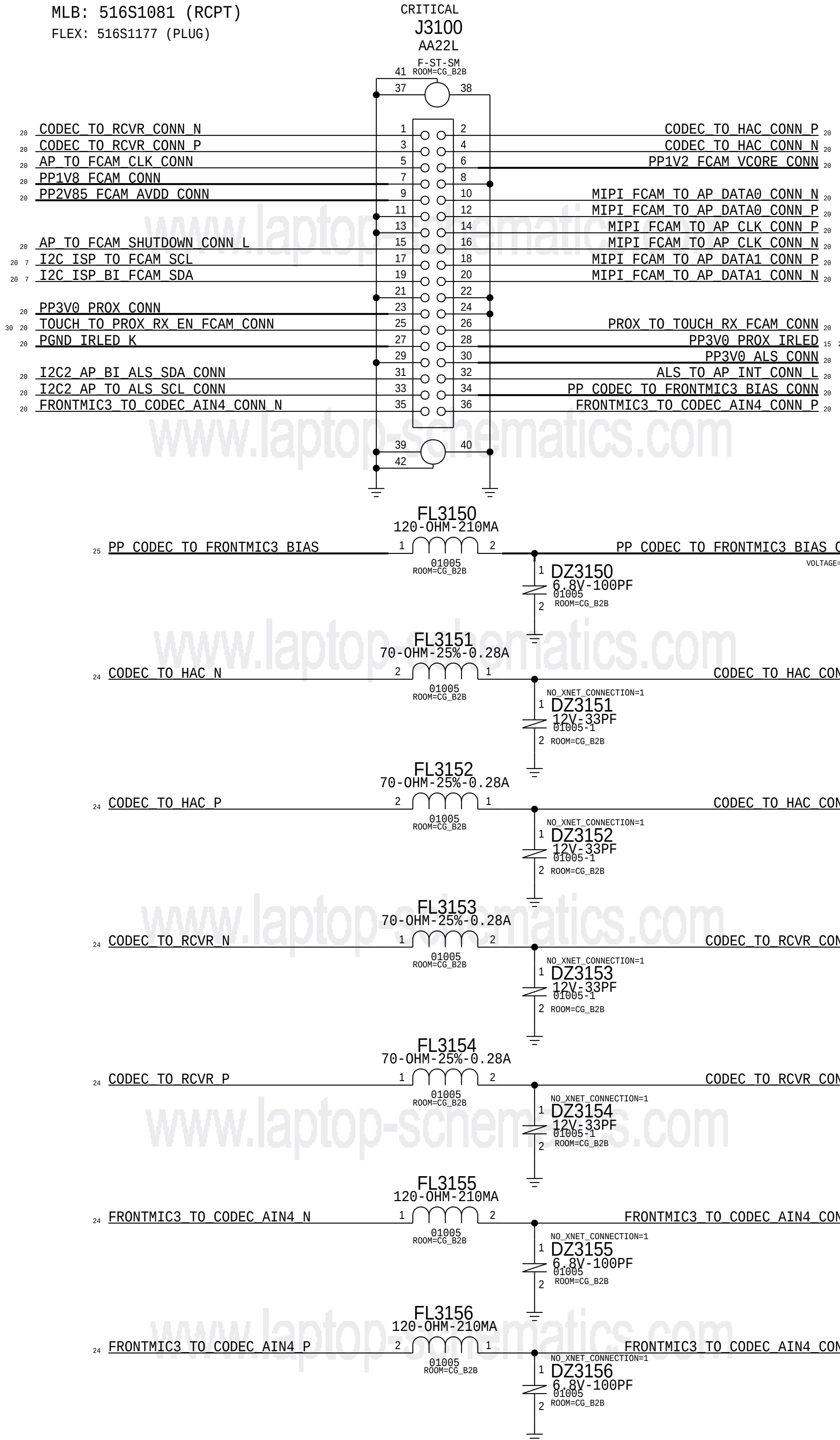


PROX & ALS INTERFACE



FCAM CONNECTOR

MLB: 516S1081 (RCPT)
FLEX: 516S1177 (PLUG)



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CAMERA:FRONT CAMERA B2B			
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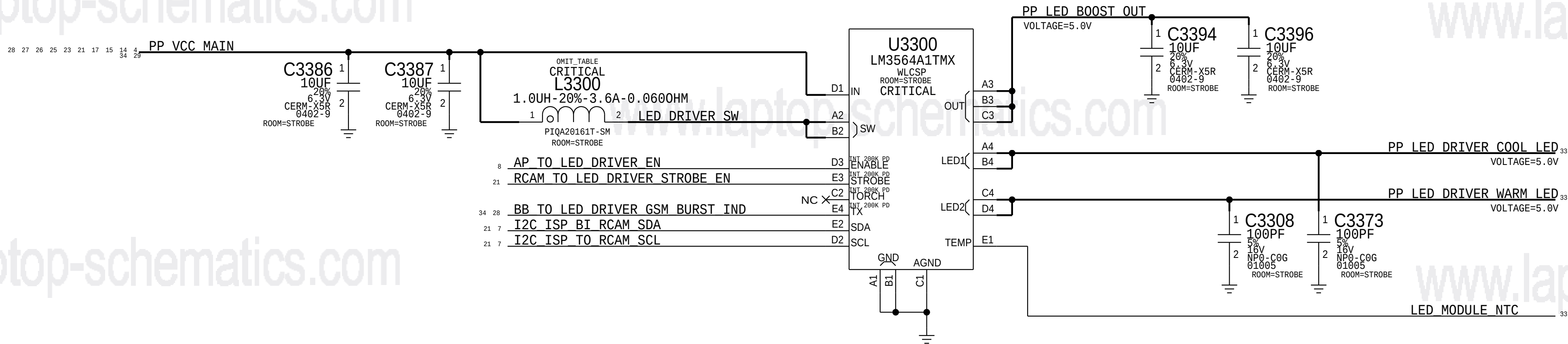
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DUAL LED STROBE DRIVER

APN: 353S3899



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		SHEET	22 OF 60

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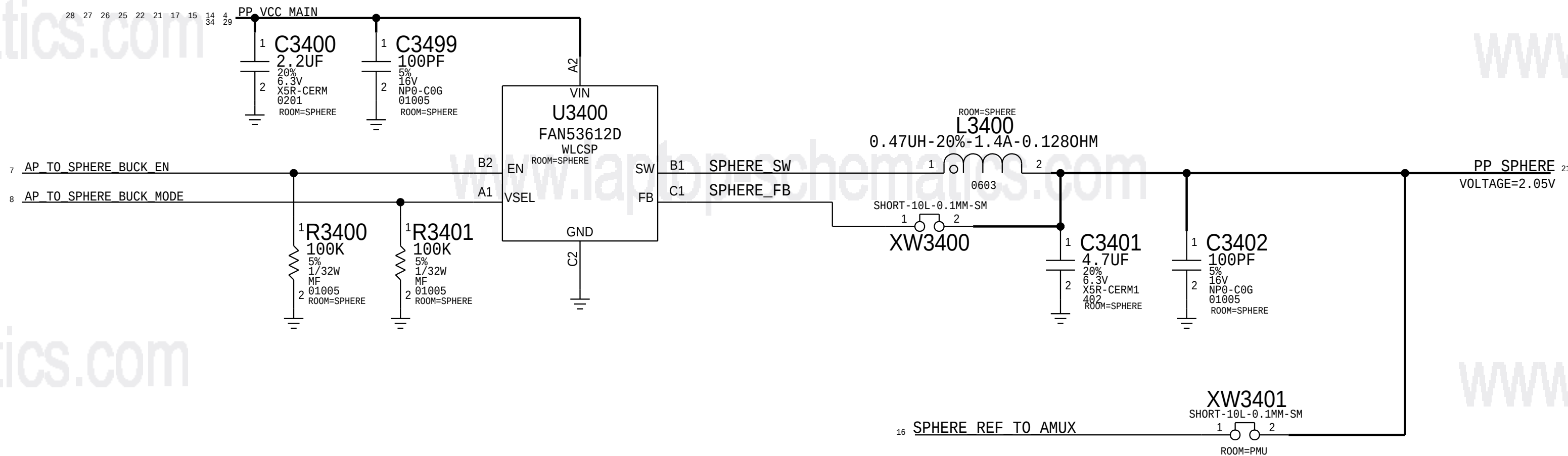
www.laptop-schematics.com

www.laptop-schematics.com

www.laptop-schematics.com

Sphere Driver

APN: 353S00584



PAGE TITLE		
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 Apple Inc.	DRAWING NUMBER	051-00094
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	PAGE	34 OF 49
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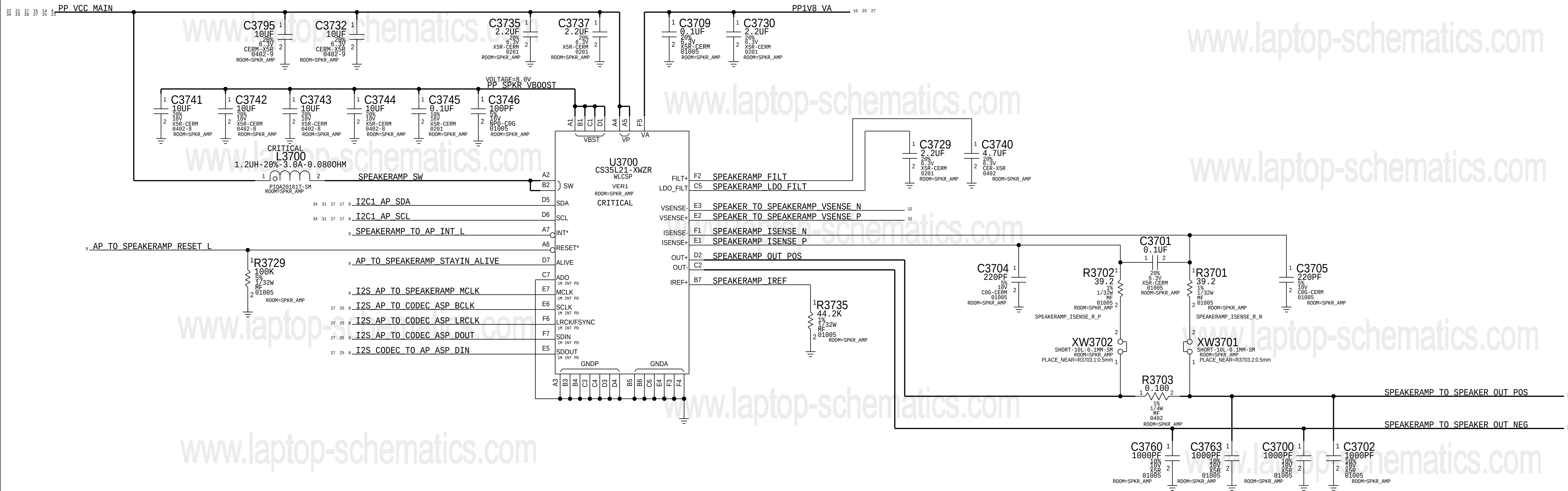
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		PAGE	36 OF 49
		SHEET	25 OF 60

SPEAKER AMPLIFIER

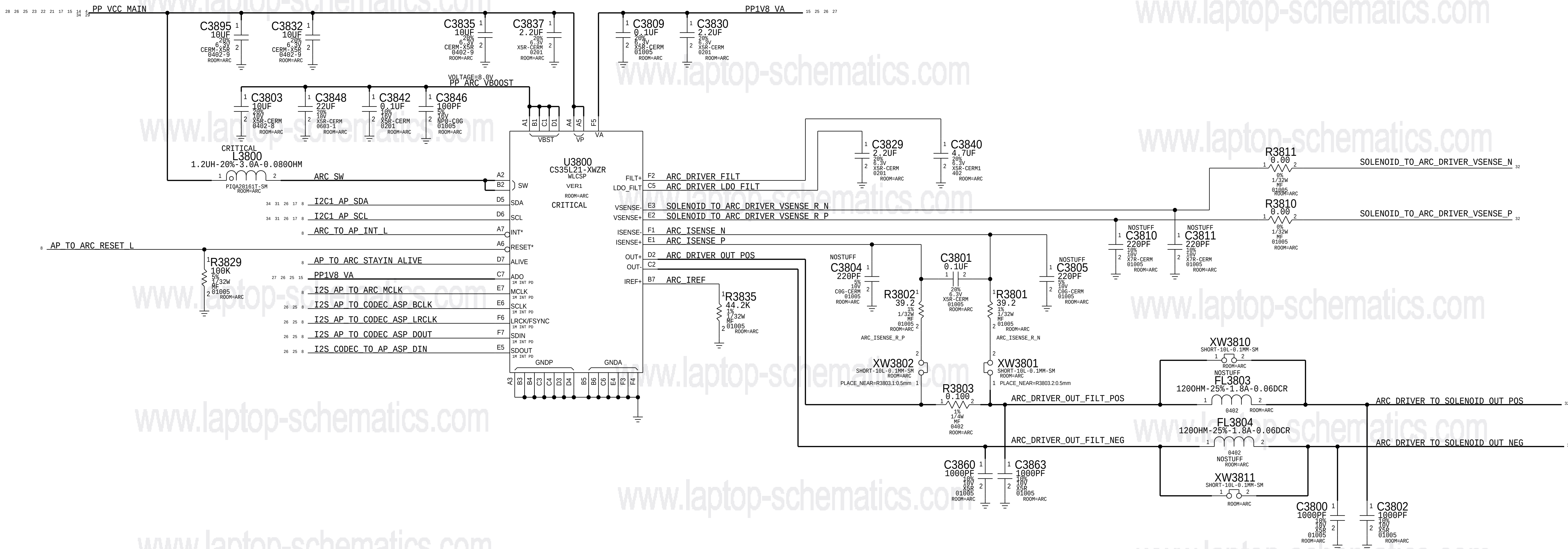
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I2C ADDRESS: 1000000



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		PAGE	37 OF 49
		SHEET	26 OF 60

ARC DRIVER

APN: 338S1285
I2C ADDRESS: 1000001

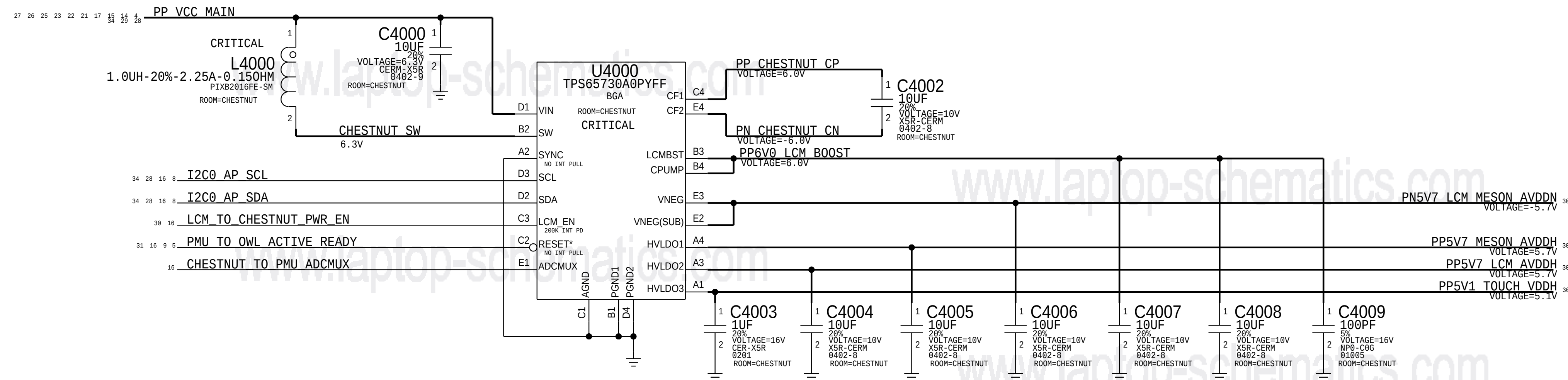


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PAGE		38 OF 49	
SHEET		27 OF 60	

DISPLAY & TOUCH - POWER SUPPLIES

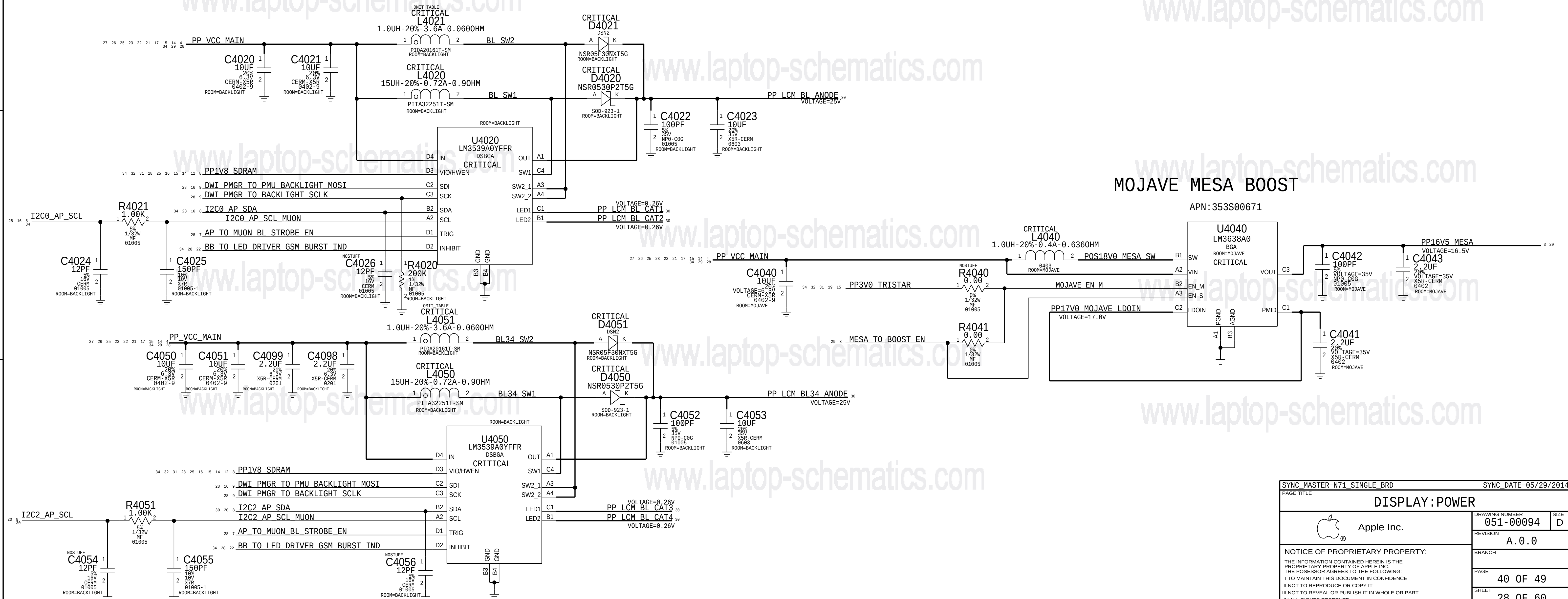
CHESTNUT DISPLAY PMU

APN:338S1172



LED BACKLIGHT DRIVERS

APN: 353S00407



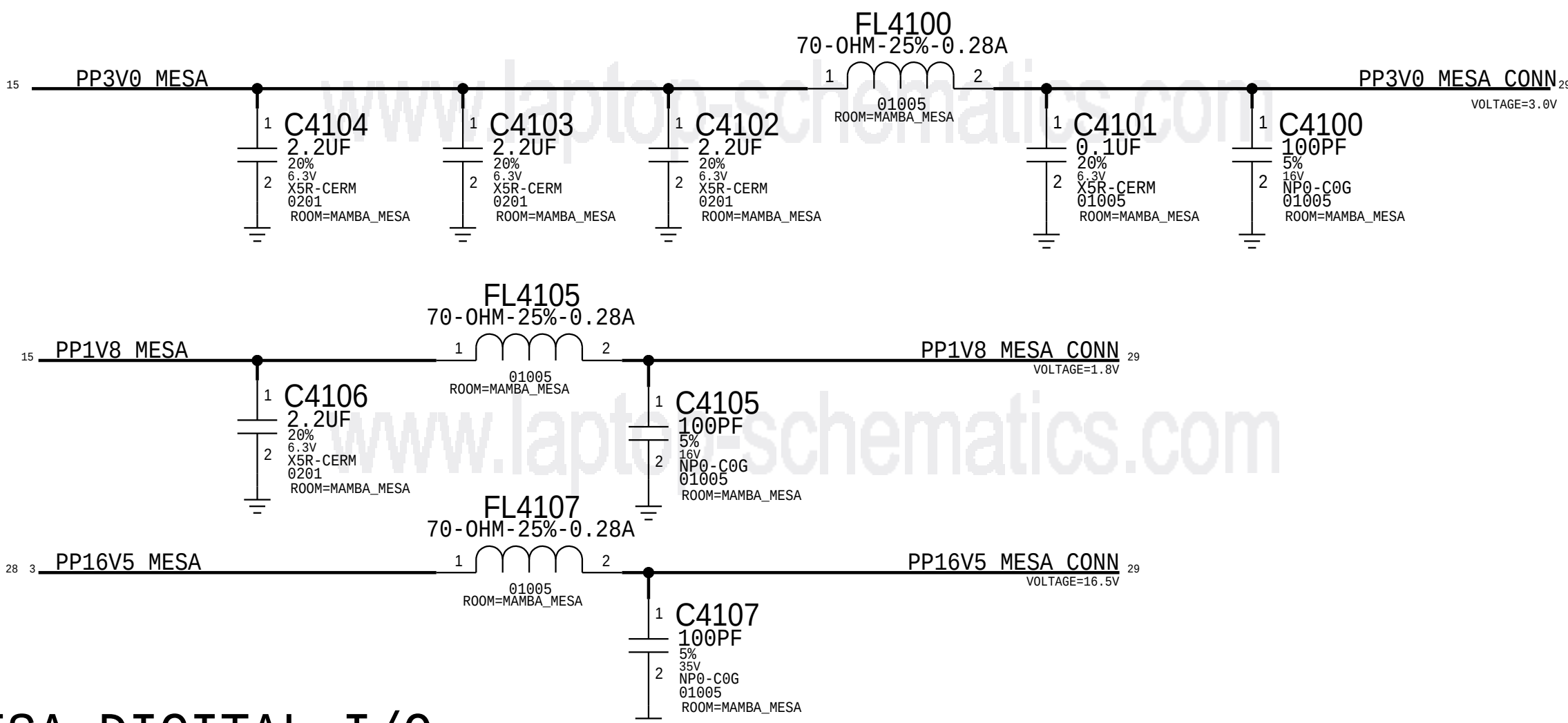
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SHEET		28 OF 60	

MAMBA & MESA FLEX

ORB & MESA CONNECTOR

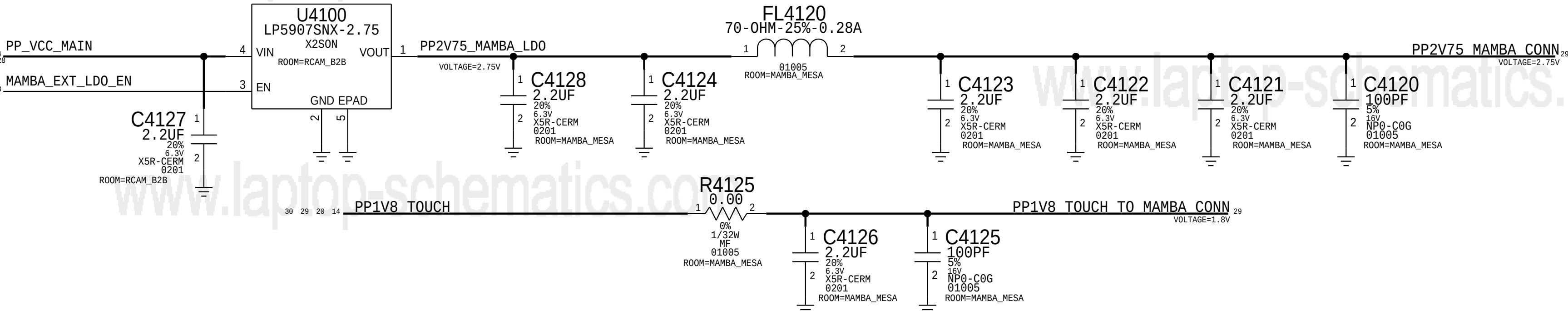
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MESA POWER

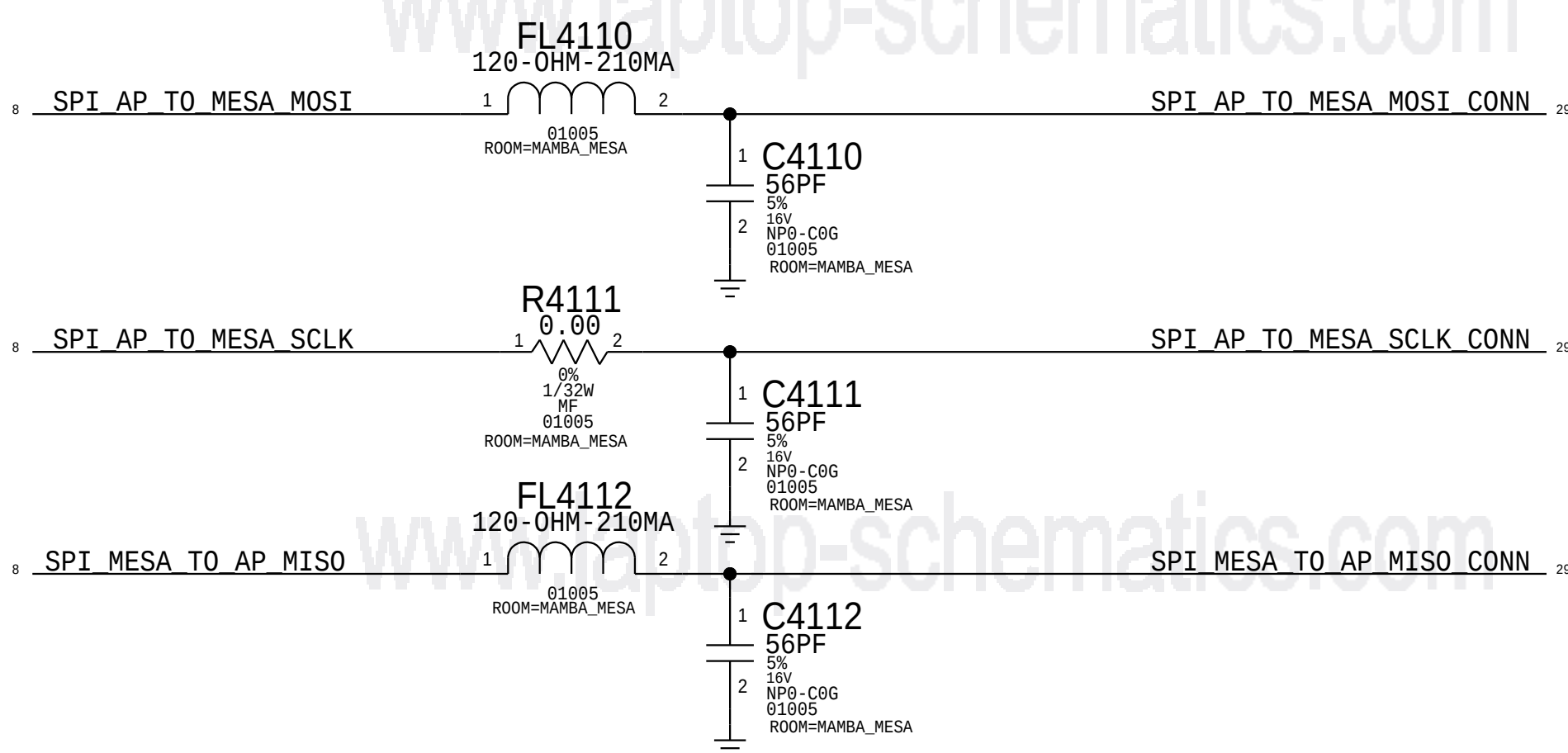


MAMBA POWER

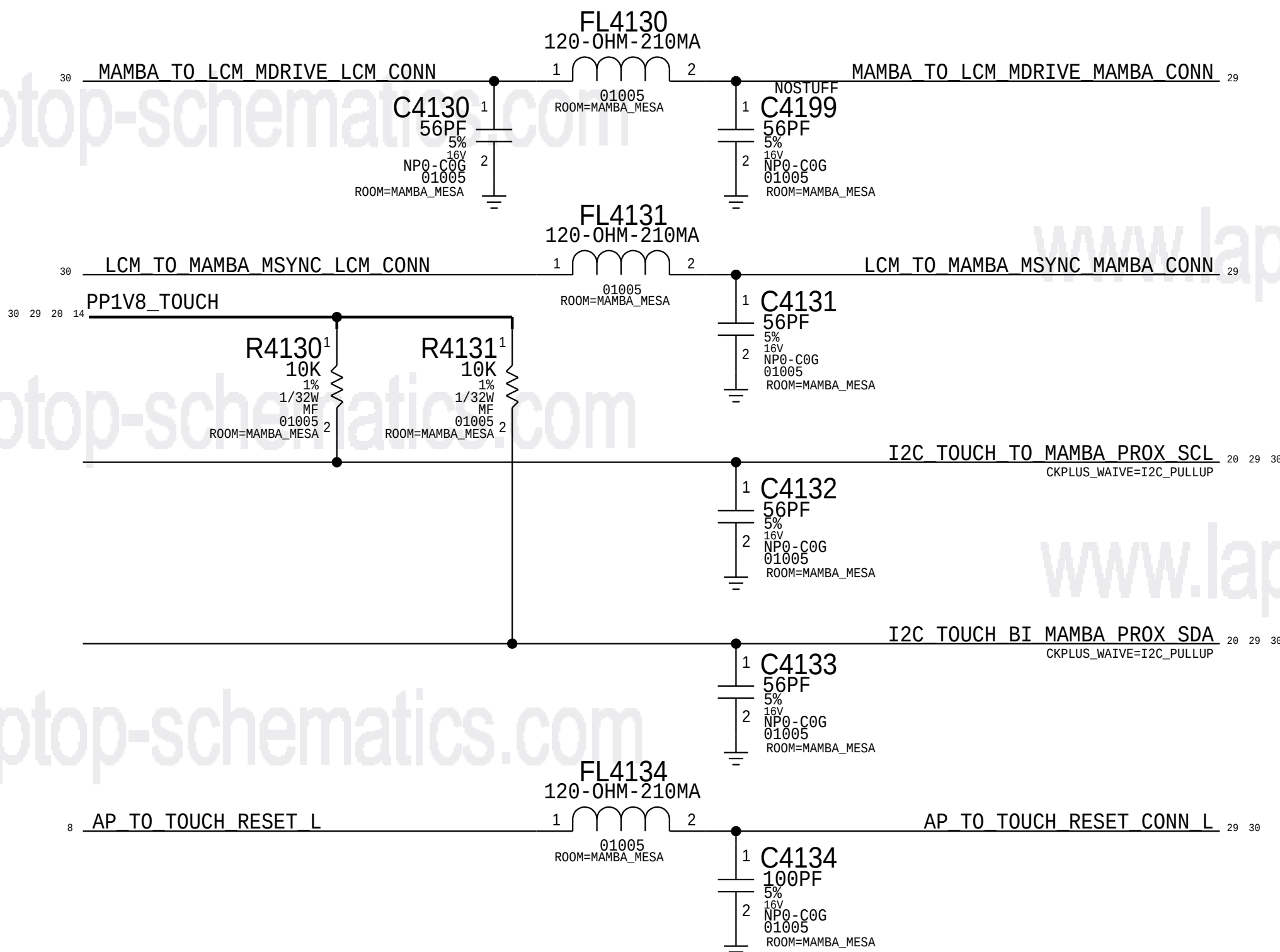
NOTE: OUTPUT IMPEDANCE MUST BE $\geq 0.005\Omega$ IN ORDER TO MEET CAP ESR REQUIREMENT PER LDO SPEC.



MESA DIGITAL I/O

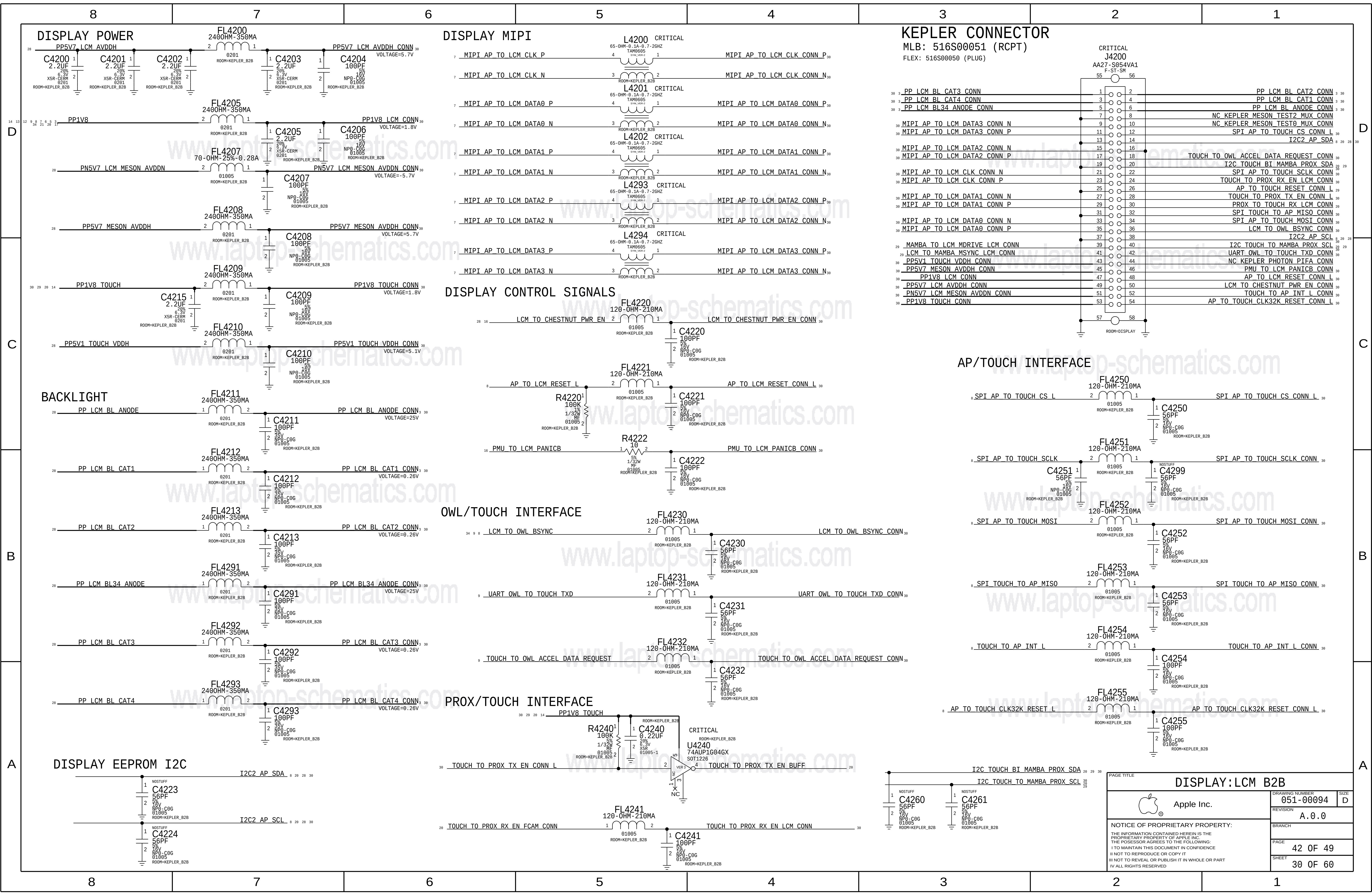


MAMBA DIGITAL I/O



NOTE:MAMBA I2C PULL-UPS TO PP1V8 TOUCH INSIDE KEPLER
ADDING R4130, R4131 AS OPTION FOR TWEAKING VALUE

SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
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TOUCH:ORB & MESA B2B			
 Apple Inc.	DRAWING NUMBER		SIZE
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	BRANCH		
	PAGE		
	41 OF 49		
	SHEET		
	29 OF 60		



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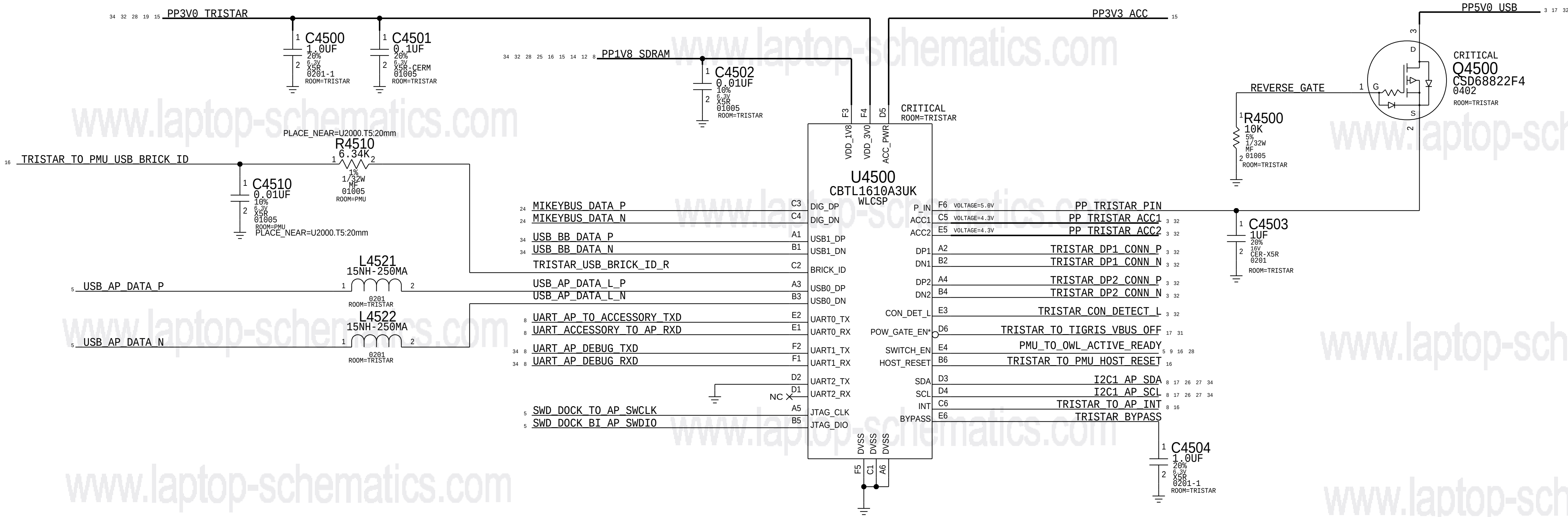
www.laptop-schematics.com

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www.laptop-schematics.com

TRISTAR 2

APN: 343S0695



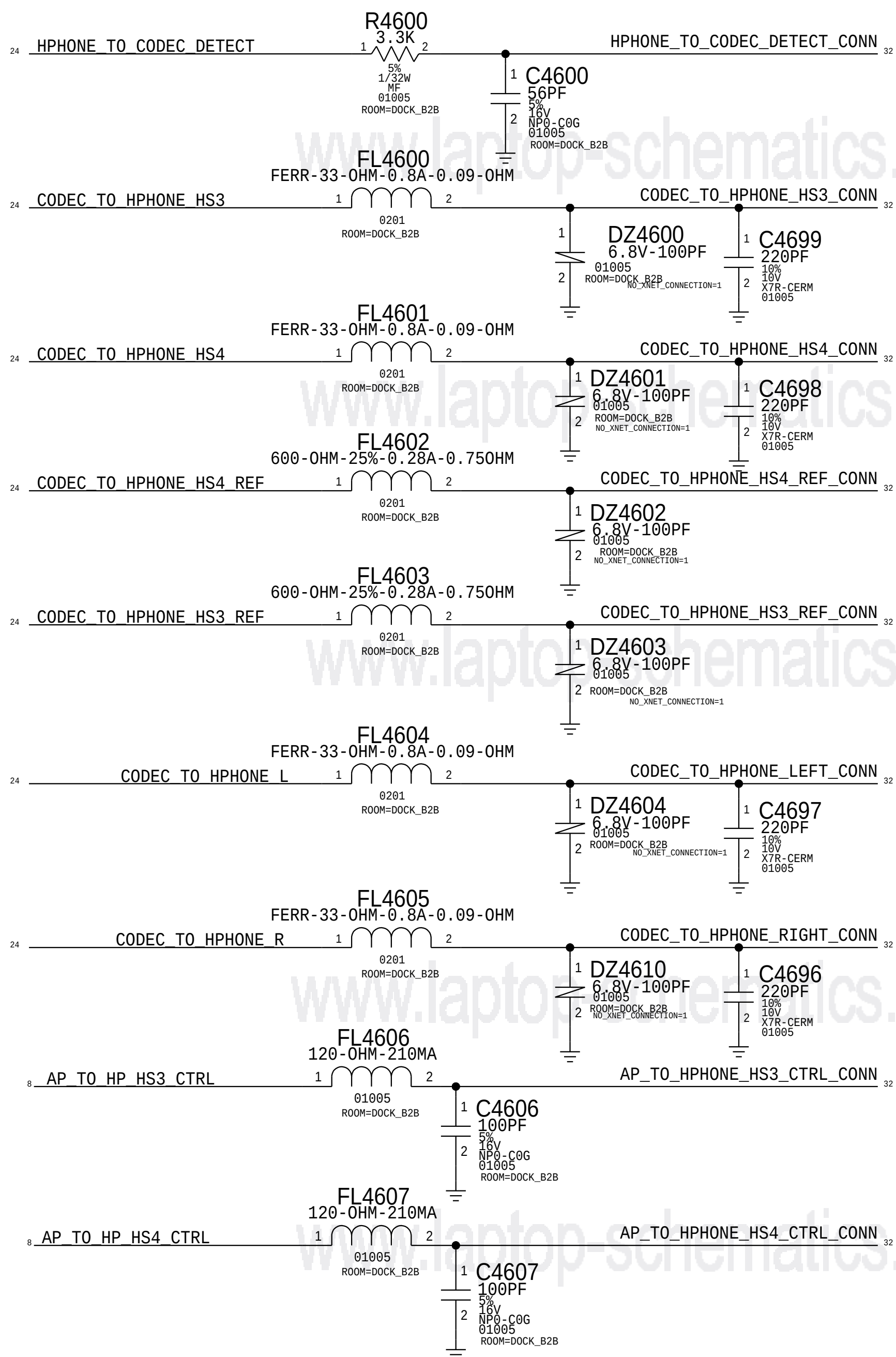
PROBE POINTS

31 17 TRISTAR TO TIGRIS VBUS OFF 1 SH PP4500

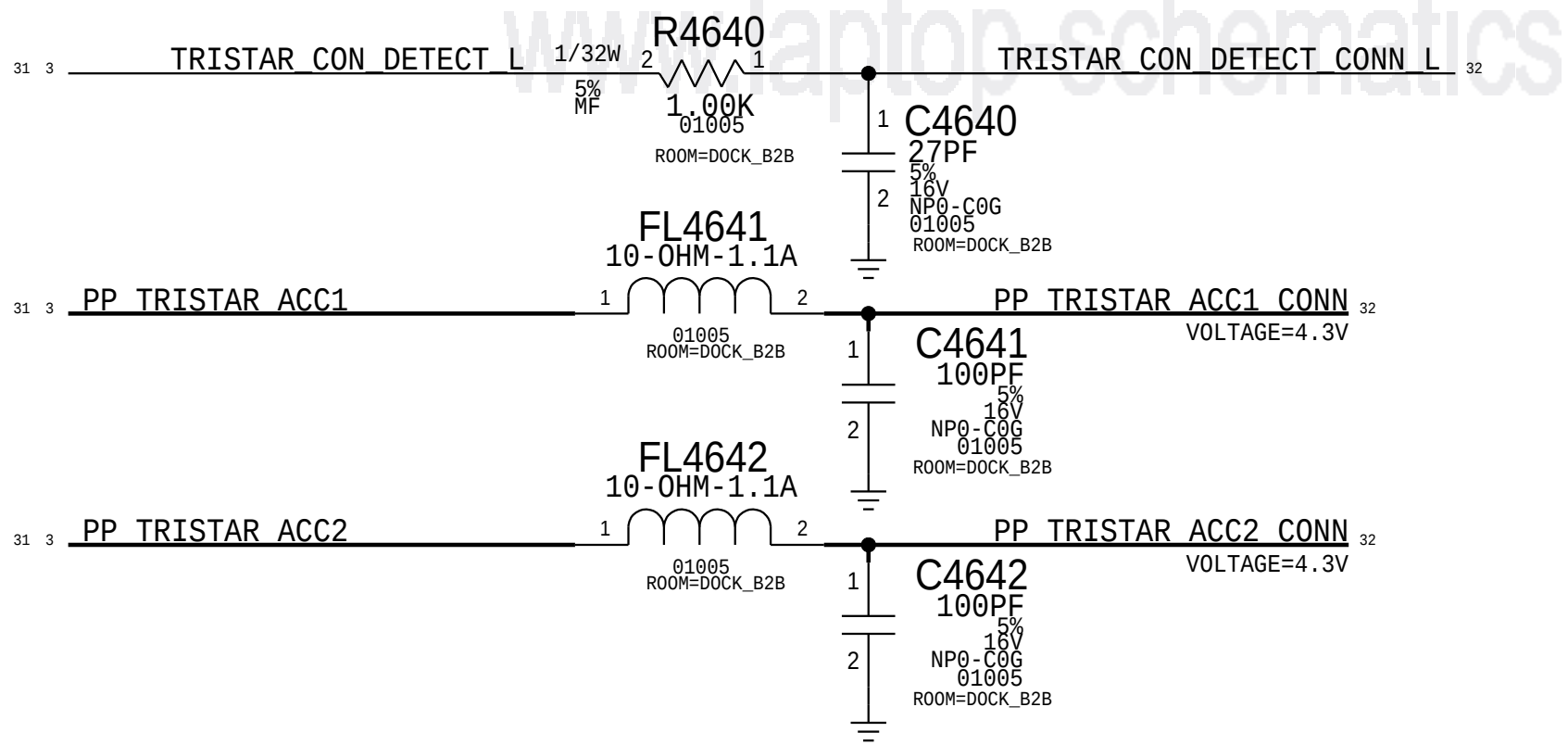
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DOCK FLEX CONNECTOR

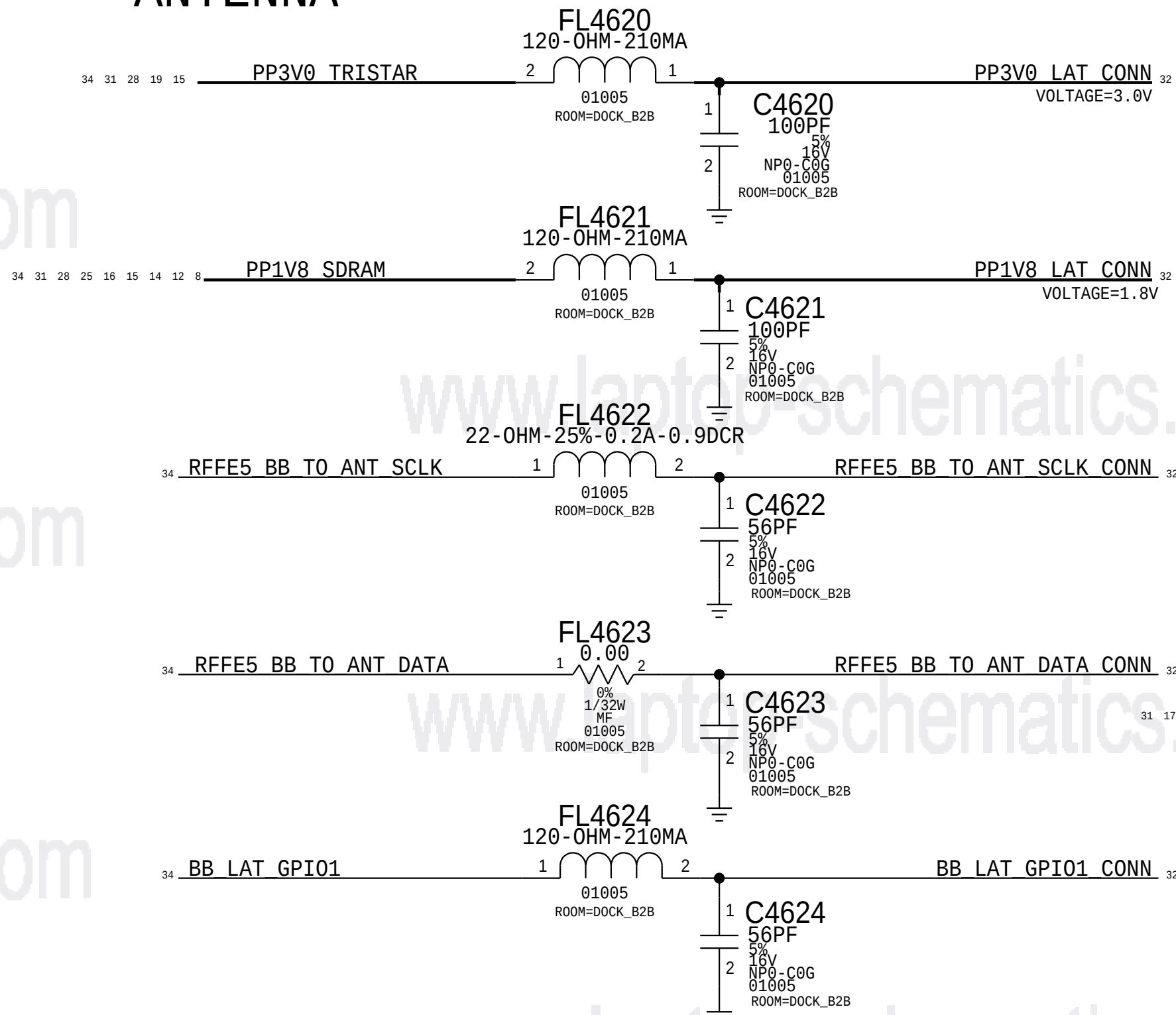
AUDIO JACK



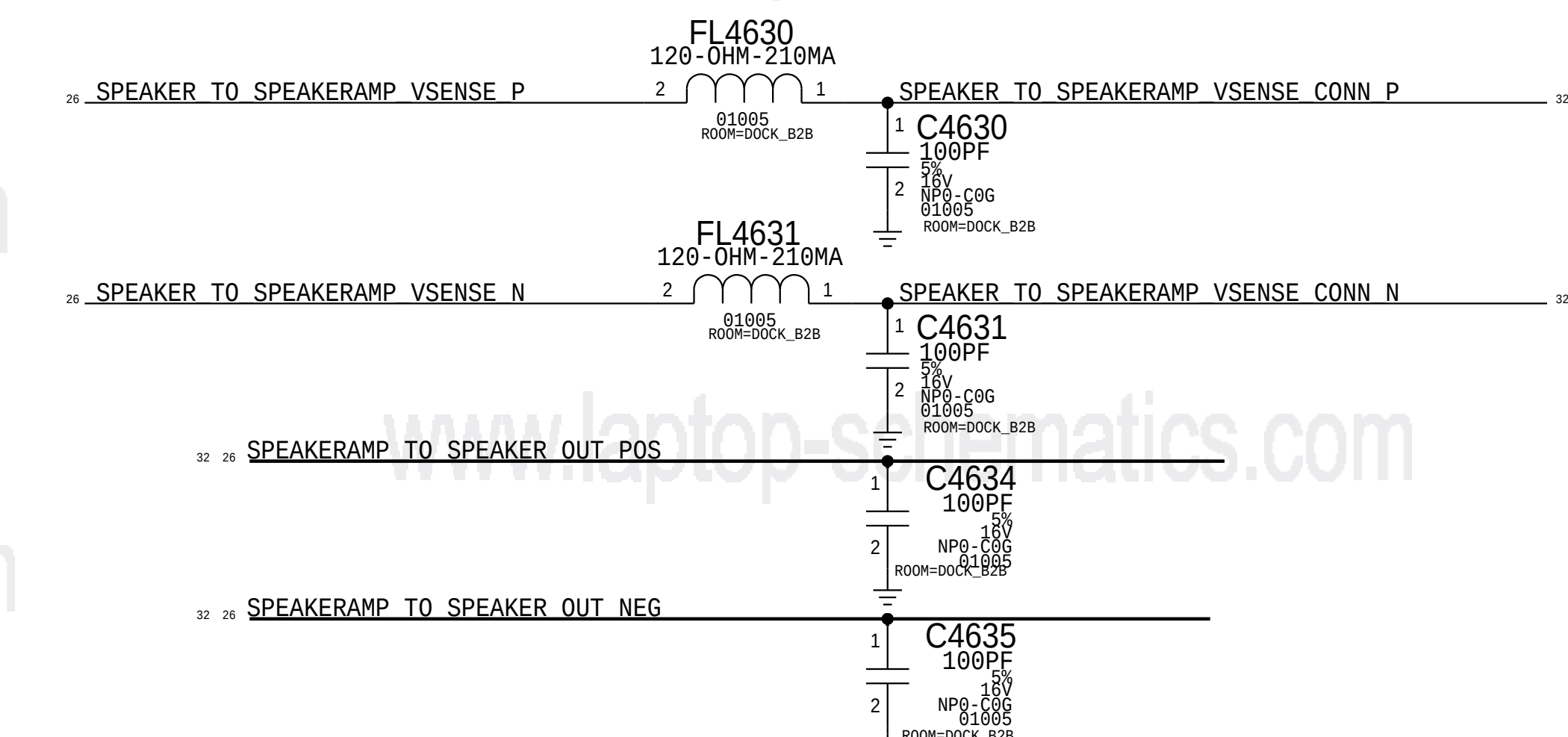
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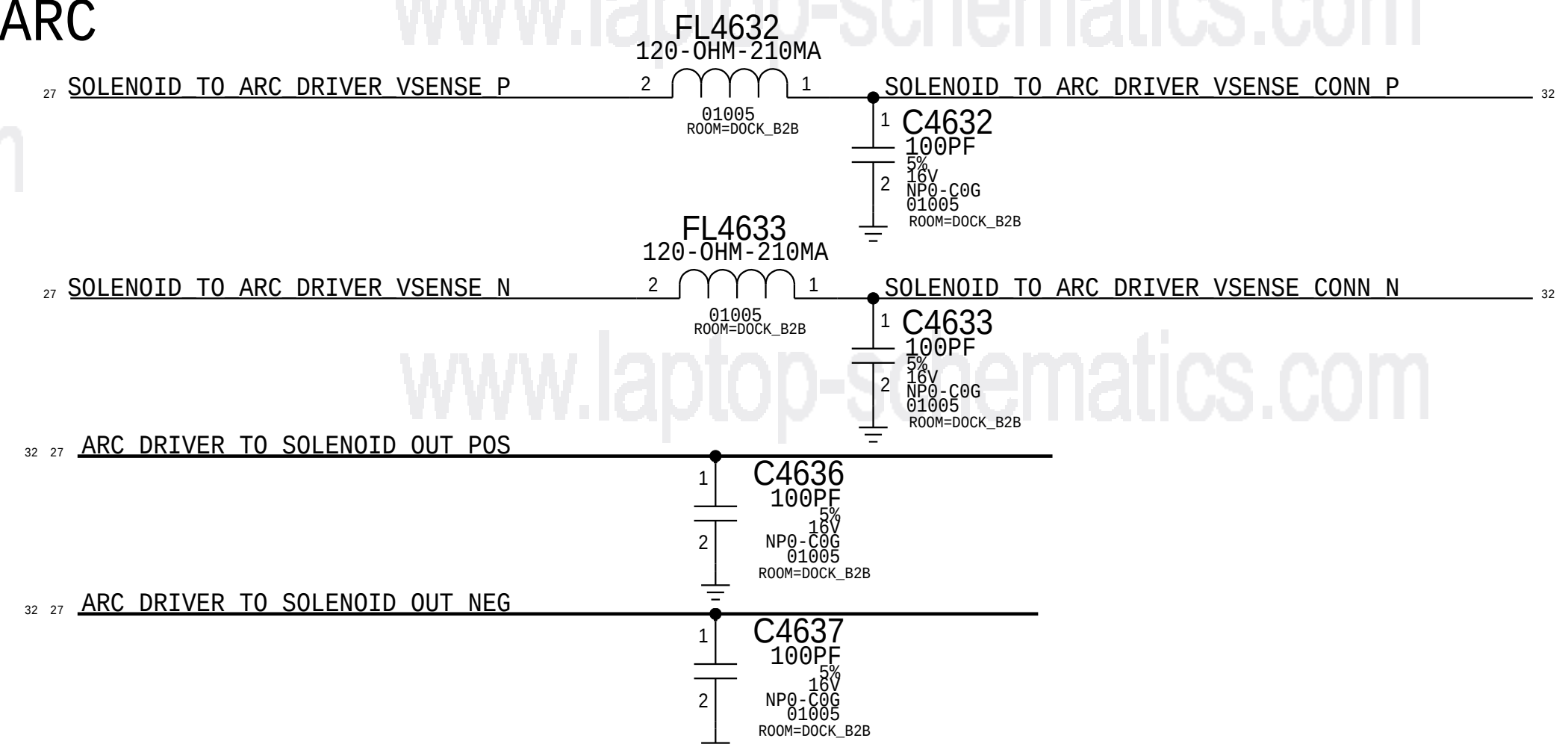
ANTENNA



SPEAKER



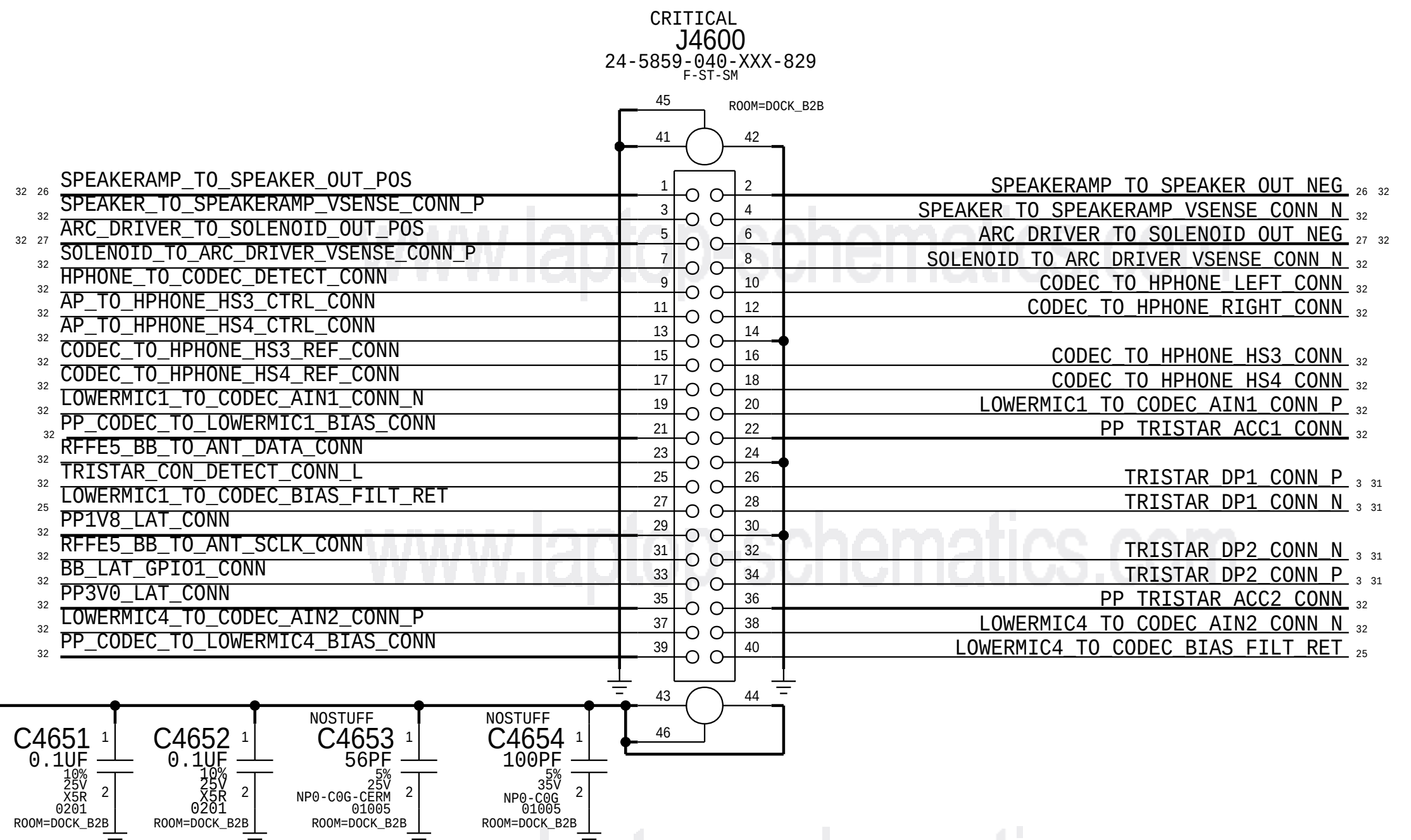
ARC



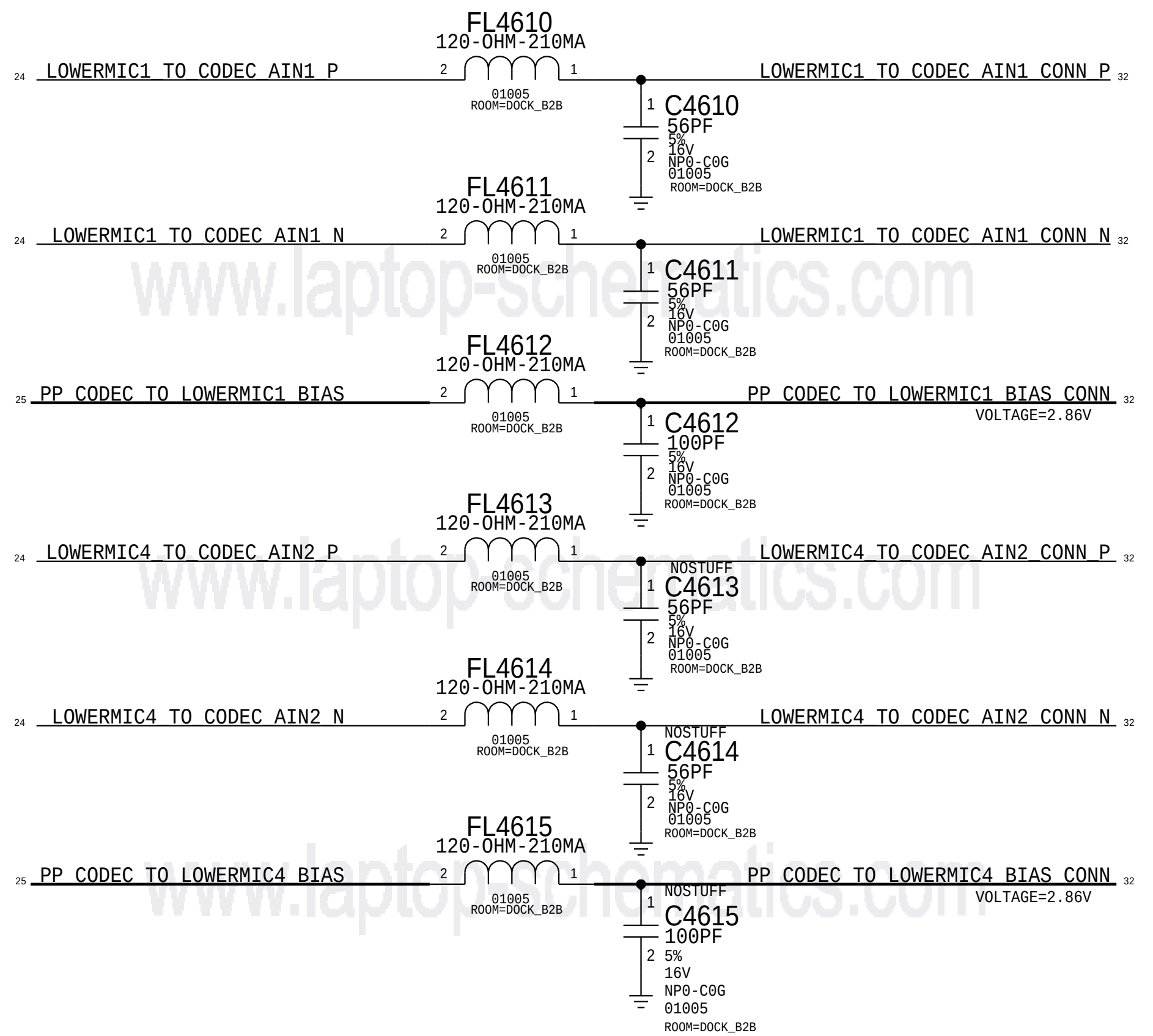
DOCK FLEX CONNECTOR

MLB: 516S00033 (RCPT)

FLEX: 516S00034 (PLUG)



LOWER MIC1/4

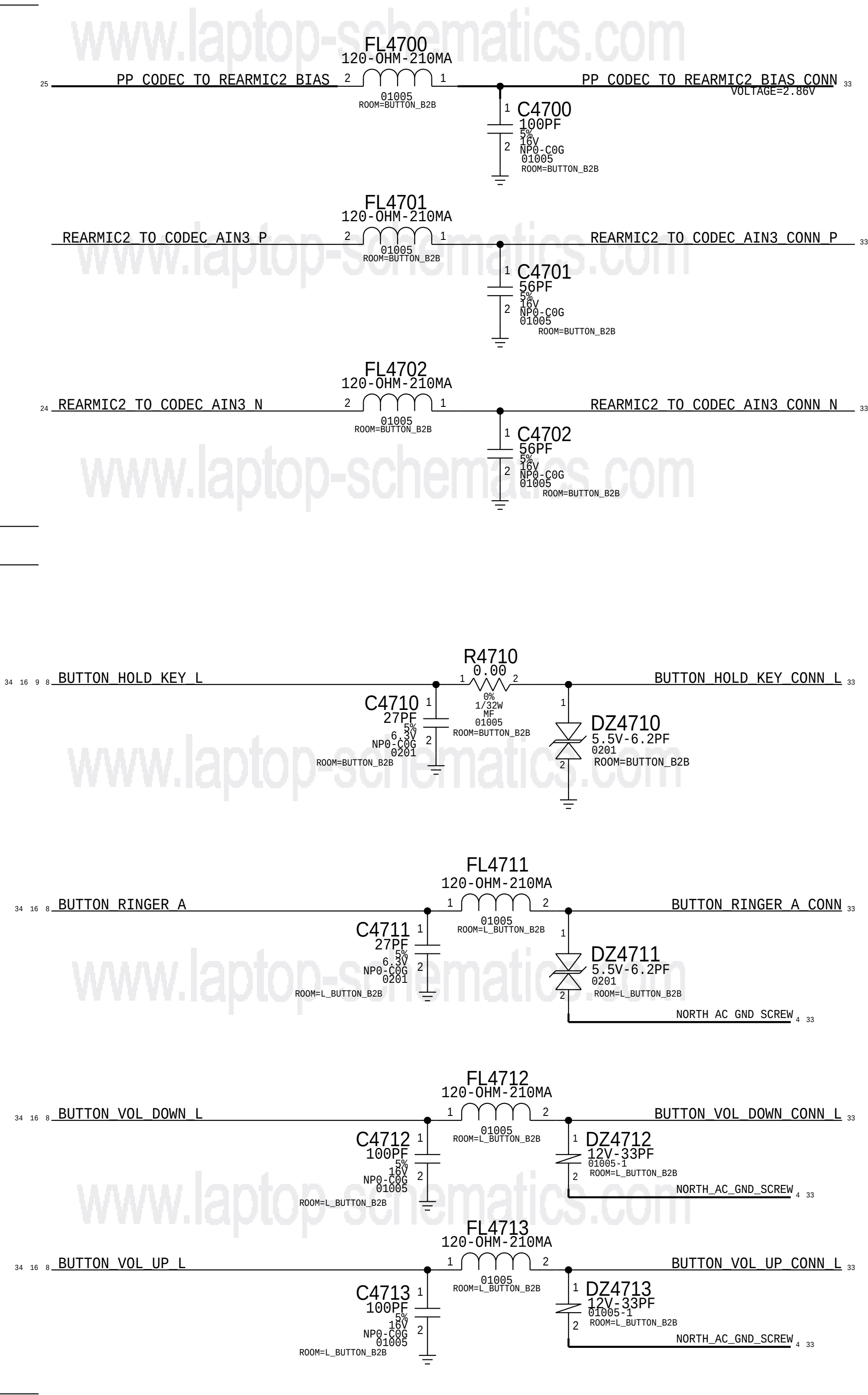


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		SHEET	32 OF 60

8 7 6 5 4 3 2 1

BUTTON FLEX

MIC2
ANC REF MIC



BUTTONS:
HOLD
RINGER
VOL UP/DOWN

RIGHT BUTTON FLEX CONNECTOR

MLB: 516S00047 (RCPT)

FLEX: 516S00046 (PLUG)

CRITICAL

ROOM=BUTTON_B2B

J4700

BM28P0.6-10DS-0.35V

F-ST-SM

11 12

1 2 3 4 5 6 7 8 9 10 13 14

PP LED DRIVER COOL LED

REARMIC2 TO CODEC AIN3 CONN P

REARMIC2 TO CODEC AIN3 CONN N

PP CODEC TO REARMIC2 BIAS CONN

LED MODULE NTC CONN

PP LED DRIVER WARM LED

LEFT BUTTON FLEX CONNECTOR

MLB: 516S1317

CRITICAL

ROOM=L_BUTTON_B2B

J4701

505066-0610

F-ST-SM

7 8

NC X 1 2 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

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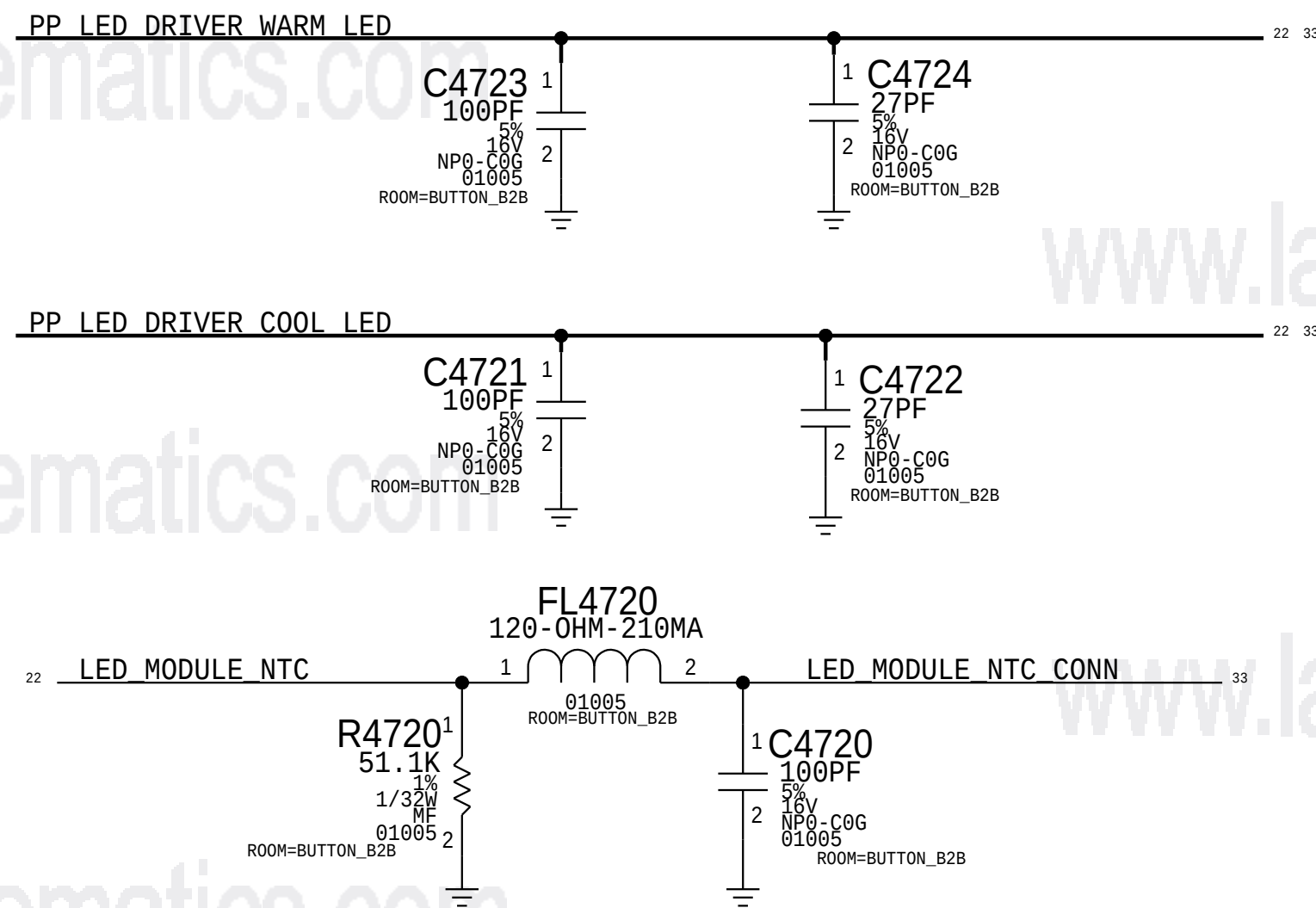
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NC X 3 4 5 6

NC X 3 4 5 6

NC X 3 4 5 6

STROBE:
WARM LED
COOL LED
MODULE NTC



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I/O:BUTTON FLEX B2B			
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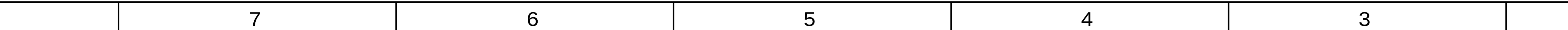
BASEBAND, WLAN, BT & STOCKHOLM

SUBDESIGN_SUFFIX=RF	
RADIO_MLB_MIMO	
SHARED POWER	
PP_VCC_MAIN	PP_VCC_MAIN
PP3V0_TRISTAR	PP3V0_TRISTAR
PP1V8_SDRAM	PP1V8_SDRAM
BASEBAND	WLAN
PCIE0_AP_TO_BB_TXD_P	PCIE0_BB_TO_AP_TX_P
PCIE0_AP_TO_BB_TXD_N	PCIE0_BB_TO_AP_TX_N
PCIE0_BB_TO_BB_REFCLK_P	PCIE0_BB_TO_BB_REFCLK_P
PCIE0_BB_TO_BB_REFCLK_N	PCIE0_BB_TO_BB_REFCLK_N
PCIE0_AP_TO_BB_PERST_L	PCIE0_BB_TO_BB_CLKREQ_L
PCIE0_BB_TO_BB_CLKREQ_L	PCIE0_BB_TO_BB_CLKREQ_L
PCIE0_BB_TO_PMU_HOST_WAKE_L	PCIE0_BB_TO_PMU_HOST_WAKE_L
PCIE0_BB_TO_BB_DEV_WAKE	PCIE0_BB_TO_BB_DEV_WAKE
I2S_AP_TO_BB_LRCLK	I2S_AP_TO_BB_WS
I2S_AP_TO_BB_BCLK	I2S_AP_TO_BB_CLK
I2S_AP_TO_BB_DOUT	I2S_AP_TO_BB_TX
I2S_BB_TO_AP_DIN	I2S_BB_TO_AP_TX
AP_TO_BB_RADIO_UP_L	AP_TO_BBPMU_RADIO_ON_L
PMU_TO_BB_PMIC_RESET_L	PMU_TO_BBPMU_RESET_L
AP_TO_BB_RESET_L	AP_TO_BB_RST_L
BB_TO_AP_RESET_DETECT_L	BB_TO_AP_RESET_DET_L
BB_TO_LED_DRIVER_GSM_BURST_IND	BB_TO_LED_DRIVER_GSM_BURST_IND
AP_TO_BB_MESA_ON_L	AP_TO_BB_MESA_ON_L
BB_TO_AP_GPS_TIME_MARK	BB_TO_AP_GPS_TIME_MARK
AP_TO_BB_COREDUMP	AP_TO_BB_COREDUMP_TRIG
BB_IPC_GPIO	AP_TO_BB_IPC_GPIO
LCM_TO_OWL_BSYN	TOUCH_TO_BBPMU_FORCE_PWM
UART_OWL_TO_BB_TXD	UART0_OWL_TO_BB_TX
UART_BB_TO_OWL_RXD	UART0_BB_TO_OWL_TX
USB_BB_DATA_P	USB_BB_P
USB_BB_DATA_N	USB_BB_N
PMU_TO_BB_USB_VBUS_DETECT	USB_BB_VBUS_DETECT
SWD_AP_PERIPHERAL_SWCLK	SWD_CLK_BB_JTAG_TCK
SWD_AP_BI_BB_SWDIO	SWD_IO_BB_JTAG_TMS
RFFE5_BB_TO_ANT_SCL	75_RFFE5_SCL_BB
RFFE5_BB_TO_ANT_DATA	75_RFFE5_SDATA_BB
BB_LAT_GPIO1	RFFE_BUFFER_LAT_GPIO1
BB_TO_PMU_AMUX_LDO11_SIM1	BB_TO_PMU_AMUX_LDO11_SIM1
BB_TO_PMU_AMUX_SMPS1	BB_TO_PMU_AMUX_SMPS1
BB_TO_PMU_AMUX_SMPS3	BB_TO_PMU_AMUX_SMPS3
BB_TO_PMU_AMUX_SMPS4	BB_TO_PMU_AMUX_SMPS4
ANT	STOCKHOLM
AP_TO_STOCKHOLM_ANT	UART3_AP_TO_STOCKHOLM_TXD
	UART3_AP_TO_STOCKHOLM_RTS_L
	UART3_STOCKHOLM_TO_AP_TXD
	UART3_STOCKHOLM_TO_AP_RTS_L
	PMU_TO_STOCKHOLM_EN
	STOCKHOLM_TO_PMU_HOST_WAKE
	AP_TO_STOCKHOLM_DEV_WAKE
	AP_TO_STOCKHOLM_FW_DWLD_REQ
AP DEBUG	
PP1V8	PP1V8
DFU_STATUS	DFU_STATUS
FORCE_DFU	FORCE_DFU
PMU_TO_SYSTEM_COLD_RESET_L	PMU_TO_SYSTEM_COLD_RESET_L
I2C0_AP_SCL	I2C0_AP_SCL
I2C0_AP_SDA	I2C0_AP_SDA
I2C1_AP_SCL	I2C1_AP_SCL
I2C1_AP_SDA	I2C1_AP_SDA
BUTTON_HOLD_KEY_L	BUTTON_HOLD_KEY_L
BUTTON_MENU_KEY_L	BUTTON_MENU_KEY_L
BUTTON_RINGER_A	BUTTON_RINGER_A
BUTTON_VOL_DOWN_L	BUTTON_VOL_DOWN_L
BUTTON_VOL_UP_L	BUTTON_VOL_UP_L
NC_PMU_GPIO20	PMU_GPIO20
NC_PMU_GPIO21	PMU_GPIO21
NC_OWL_FUNC2	OWL_FUNC2
NC_AP_RESERVED2	AP_RESERVED2
UART_AP_DEBUG_RXD	AP_RESERVED1
UART_AP_DEBUG_TXD	AP_RESERVED0
NC_PMU_AMUX_AY	PMU_AMUX_AY
NC_PMU_AMUX_BY	PMU_AMUX_BY

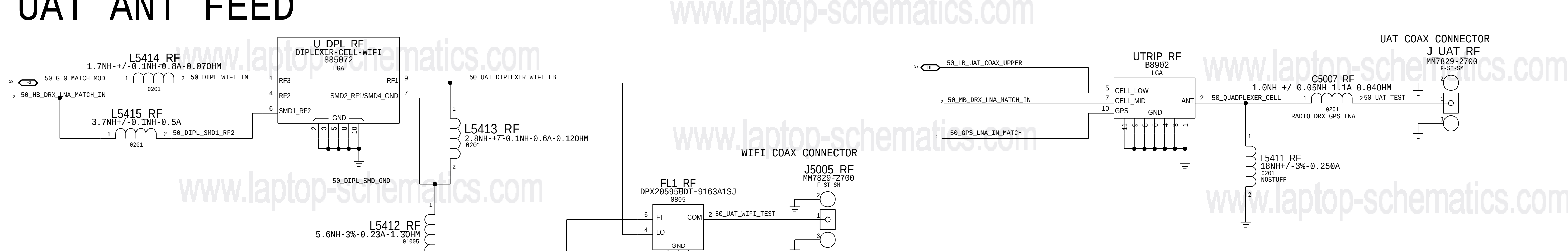
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UAT ANTI FEED



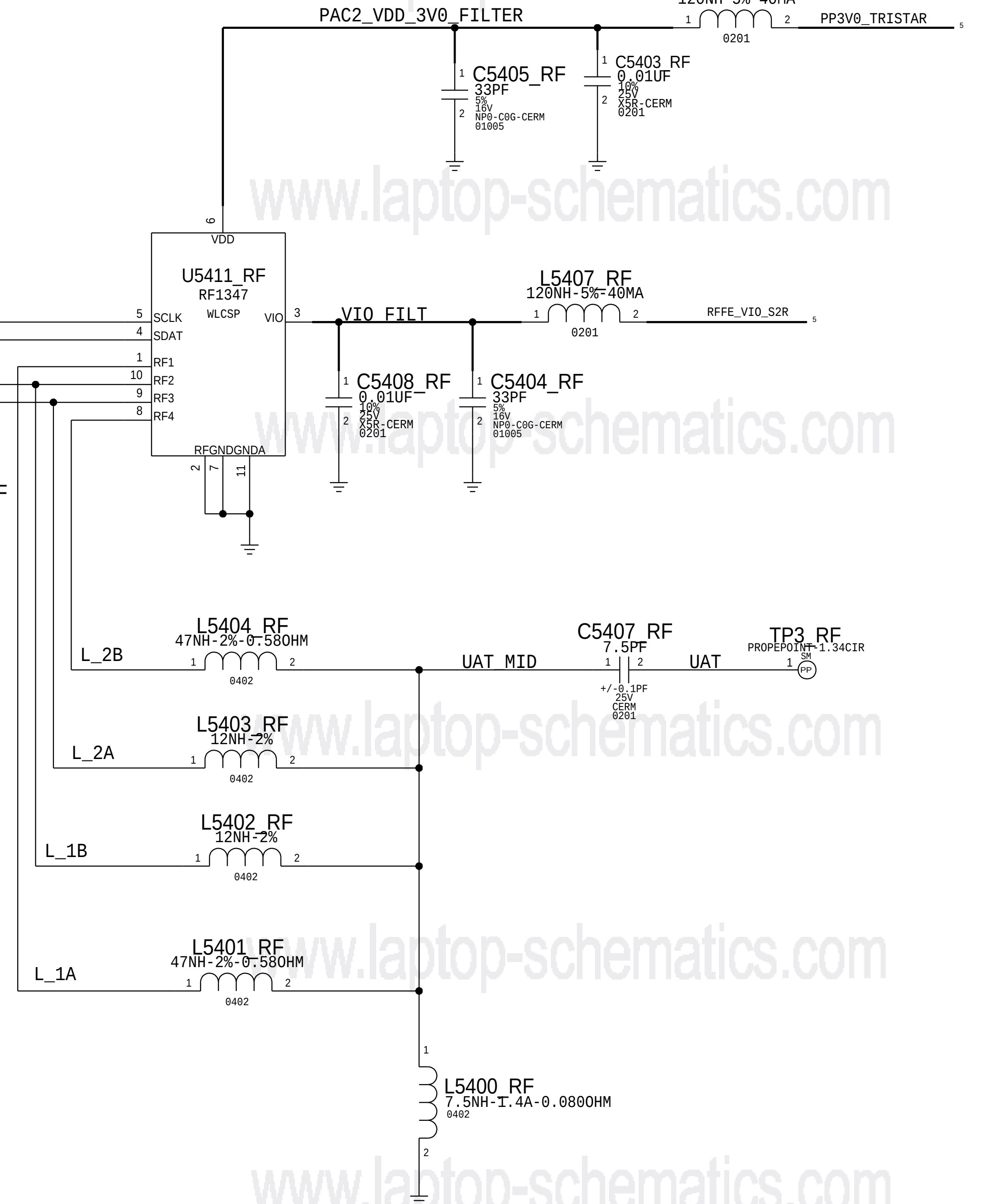
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		PAGE	2 OF 51
		SHEET	36 OF 60

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ANTENNA FEEDS AND CONNECTORS

SIM CARD CONNECTOR

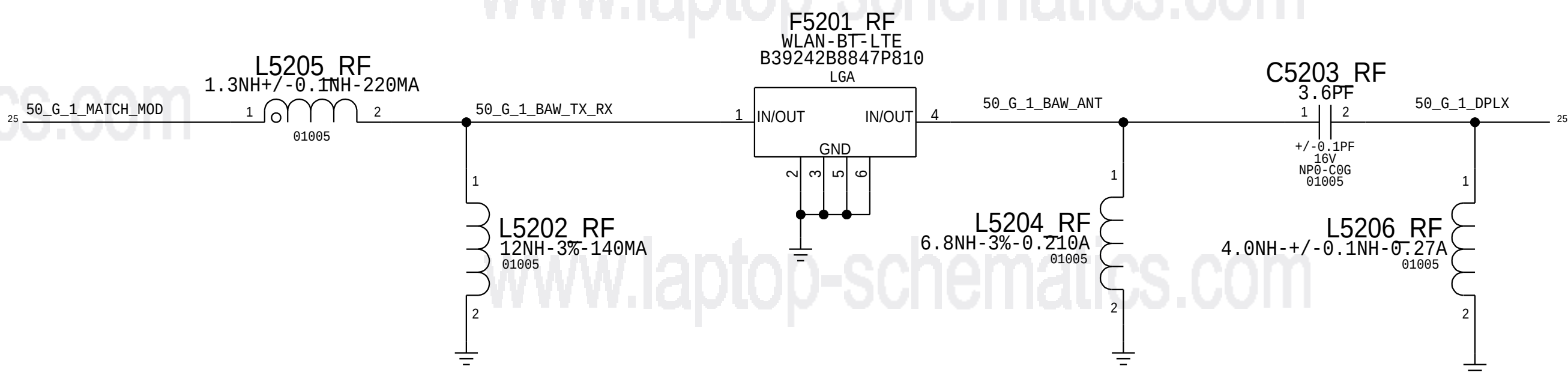
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		SHEET 37 OF 60	

N66-SPECIFIC RADIO PAGE 4

WLAN LAT 2.4GHZ BAW BPF



DARWIN LB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
131S8555	1	1.0PF, CAPACITOR	L4283_RF	DARWIN
152S80158	1	4.1NH, INDUCTOR	C4205_RF	DARWIN
131S8425	1	0.5PF, CAPACITOR	L4284_RF	DARWIN
152S2853	1	4.7NH, INDUCTOR	C4286_RF	DARWIN
131S8555	1	1.0PF, CAPACITOR	L4285_RF	DARWIN
152S80927	1	3.7NH, INDUCTOR	C4287_RF	DARWIN
131S8557	1	0.7PF, CAPACITOR	L4288_RF	DARWIN
152S2801	1	2.4NH, INDUCTOR	C4288_RF	DARWIN
131S8351	1	0.4PF, CAPACITOR	L4287_RF	DARWIN
152S2802	1	2.7NH, INDUCTOR	C4289_RF	DARWIN
152S2802	1	2.7NH, INDUCTOR	C4211_RF	DARWIN
152S2856	1	5.6NH, INDUCTOR	C4212_RF	DARWIN
131S8348	1	2.0PF, CAPACITOR	L4219_RF	DARWIN
152S2821	1	1.5NH, INDUCTOR	C4213_RF	DARWIN
118S9724	1	0 OHM, RESISTOR	R4281_RF	DARWIN
131S8551	1	1.2PF, CAPACITOR	L4681_RF	DARWIN
152S1342	1	15NH, INDUCTOR	L3982_RF	DARWIN
131S8638	1	27PF, CAPACITOR	C3882_RF	DARWIN

DARWIN HB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
152S1987	1	3.3NH, INDUCTOR	L4185_RF	DARWIN
152S2887	1	8.2NH, INDUCTOR	L4481_RF	DARWIN
131S8426	1	22PF, CAPACITOR	C4485_RF	DARWIN
152S2842	1	1.8NH, INDUCTOR	C4486_RF	DARWIN
131S8425	1	0.5PF, CAPACITOR	L4487_RF	DARWIN
152S2841	1	10.8NH, INDUCTOR	L4483_RF	DARWIN
131S88871	1	33PF, CAPACITOR	C4487_RF	DARWIN
152S88143	1	15NH, INDUCTOR	L4484_RF	DARWIN
131S88871	1	33PF, CAPACITOR	C4488_RF	DARWIN
117S8188	1	51 OHM, RESISTOR	L4410_RF	DARWIN
131S8599	1	1.5PF, CAPACITOR	C3921_RF	DARWIN
152S88852	1	3.4NH, INDUCTOR	L3910_RF	DARWIN
117S8281	1	0 OHM, RESISTOR	L3911_RF	DARWIN
152S2839	1	3.8NH, INDUCTOR	L3919_RF	DARWIN
131S8414	1	5.0PF, CAPACITOR	C4410_RF	DARWIN

PAGE TITLE			
WLAN LAT 2.4GHZ BAW BPF			
 Apple Inc.	DRAWING NUMBER	051-00094	SIZE
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SHEET		4 OF 51	
SHEET		38 OF 60	

AP TO BB/WLAN/BT/SH CONNECTIONS

BASEBAND

WLAN/BT

PCIE

PMU

MLB PROBE POINTS

ANT TUNER

RFFE

STOCKHOLM

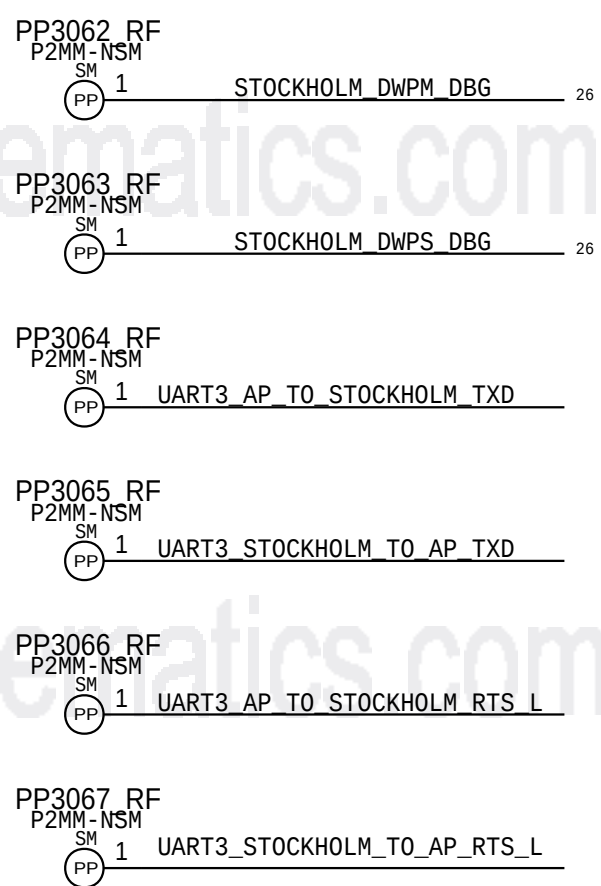
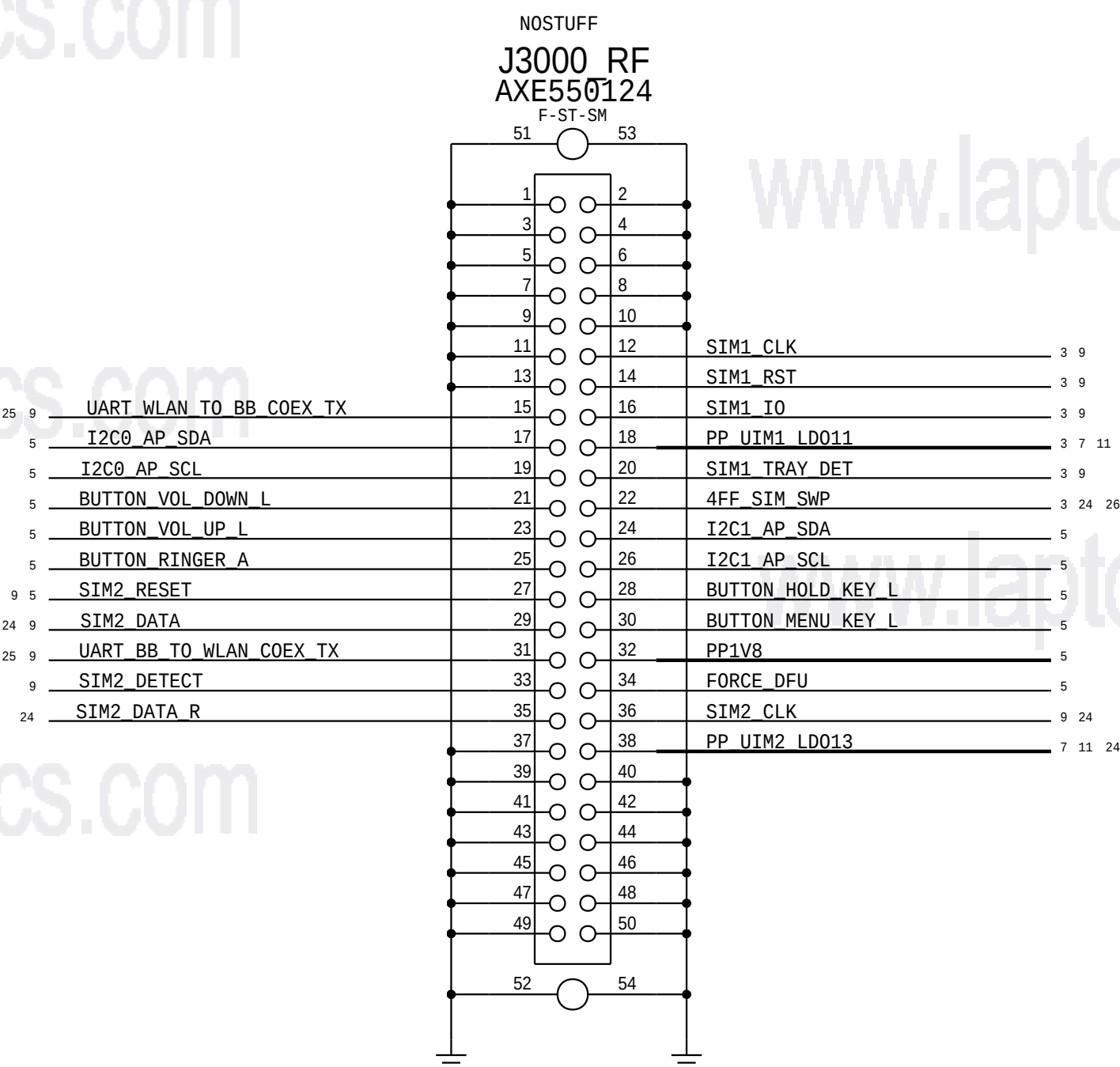
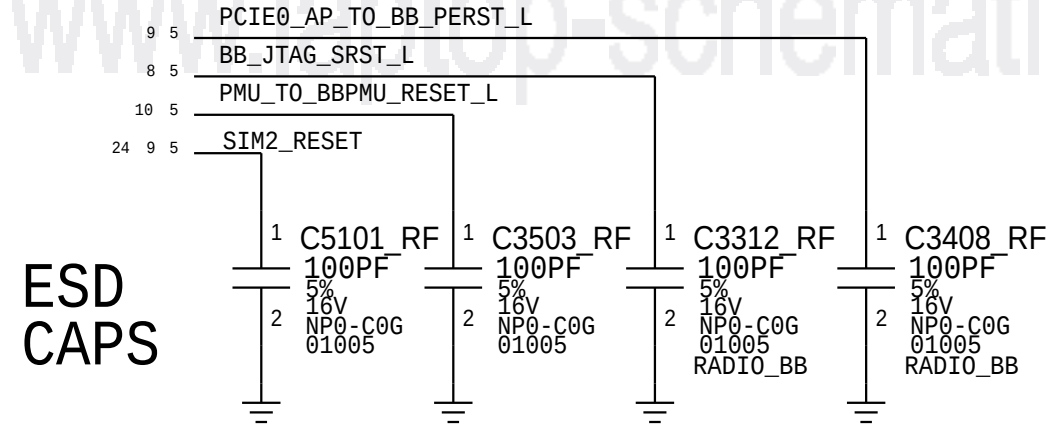
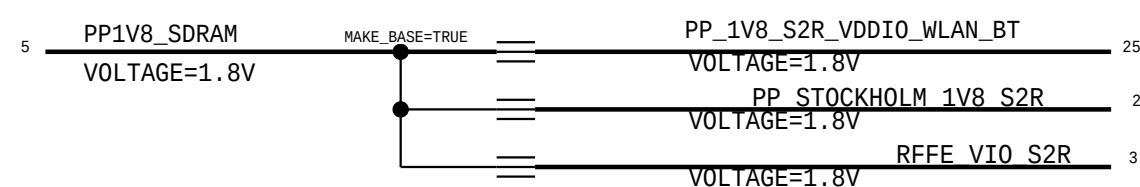
STOCKHOLM

ANT

AP DEBUG

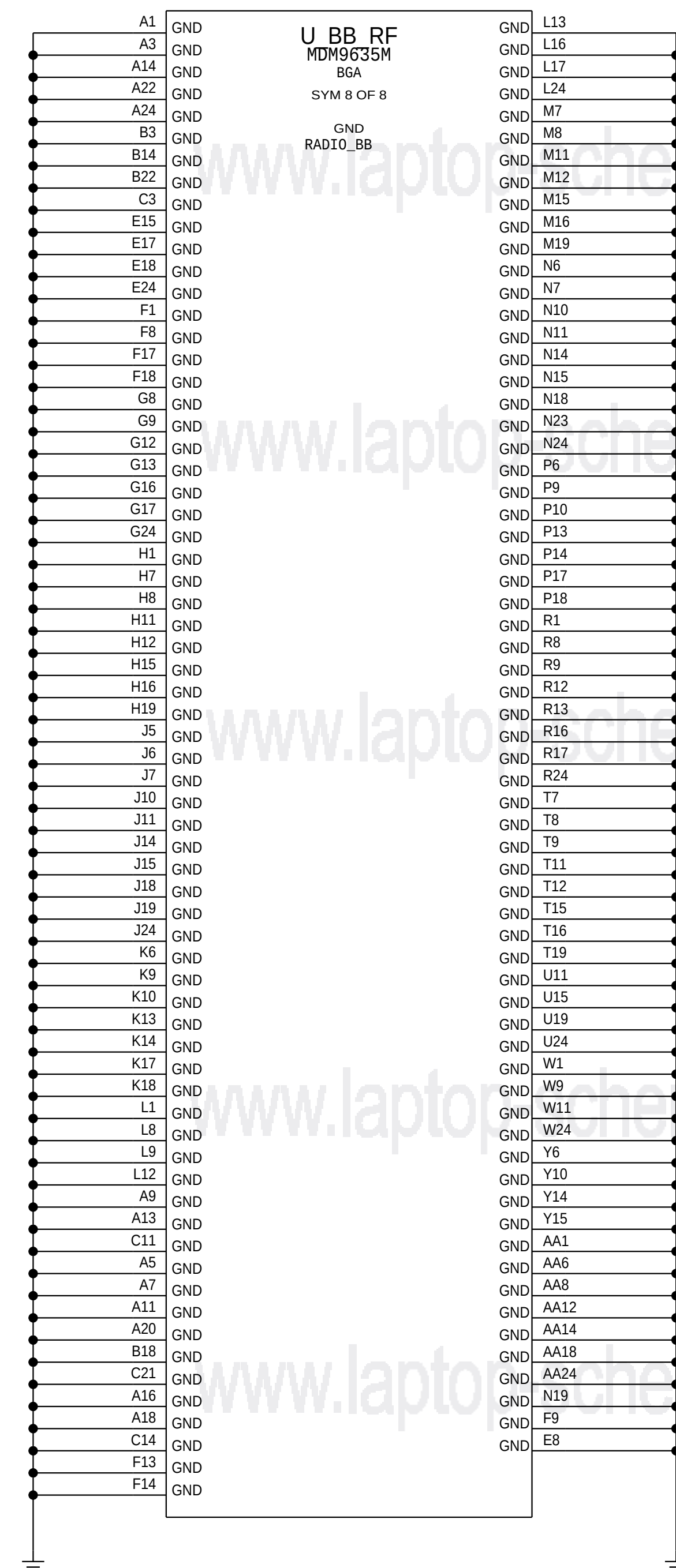
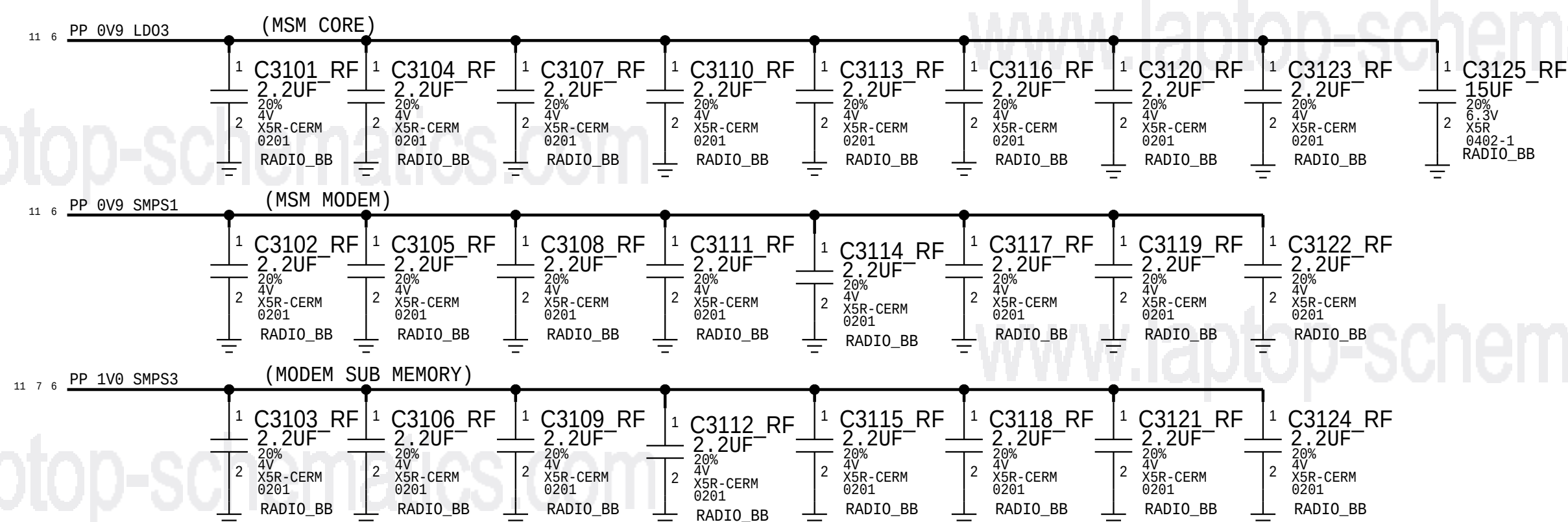
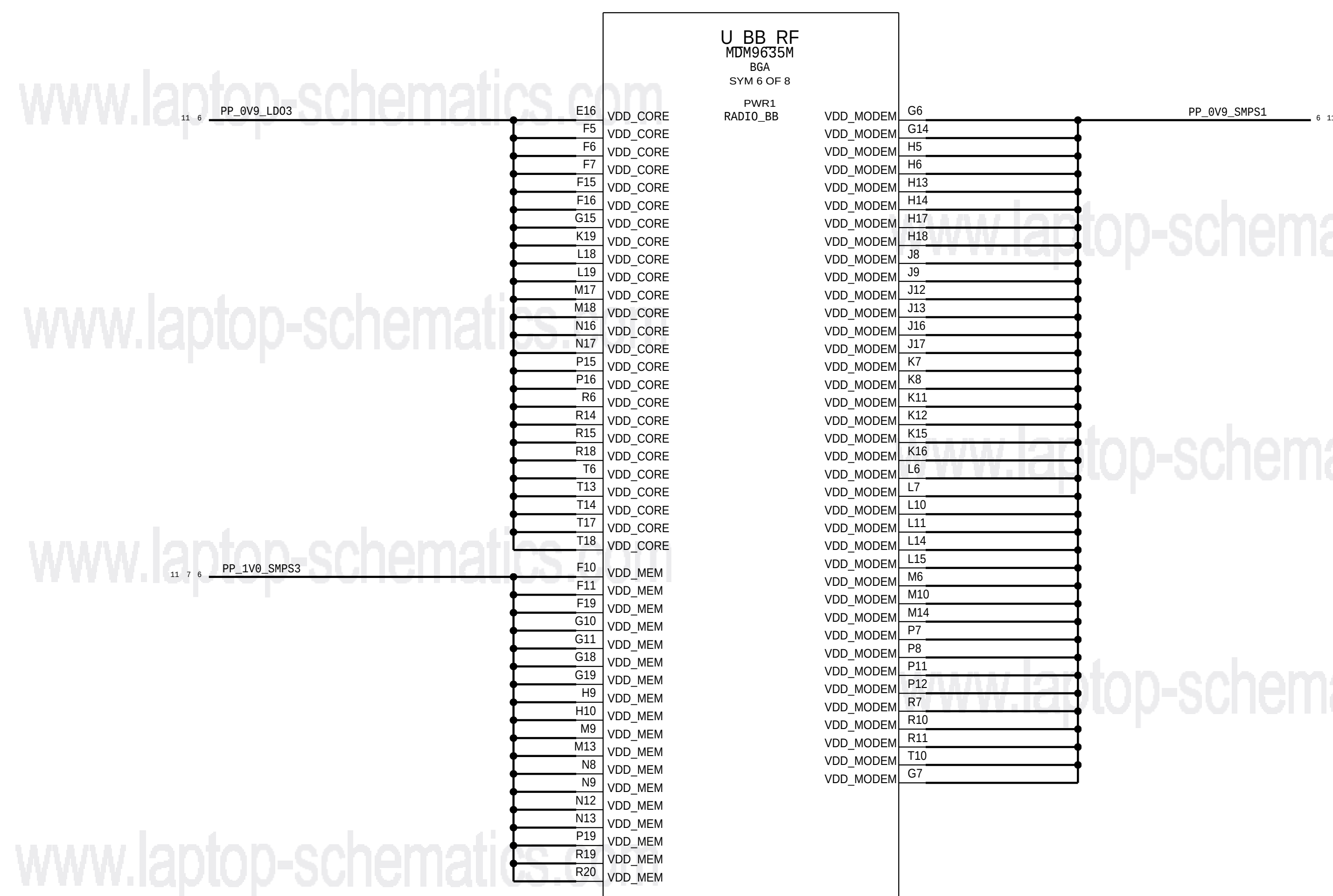
DEBUG CONNECTOR

POWER

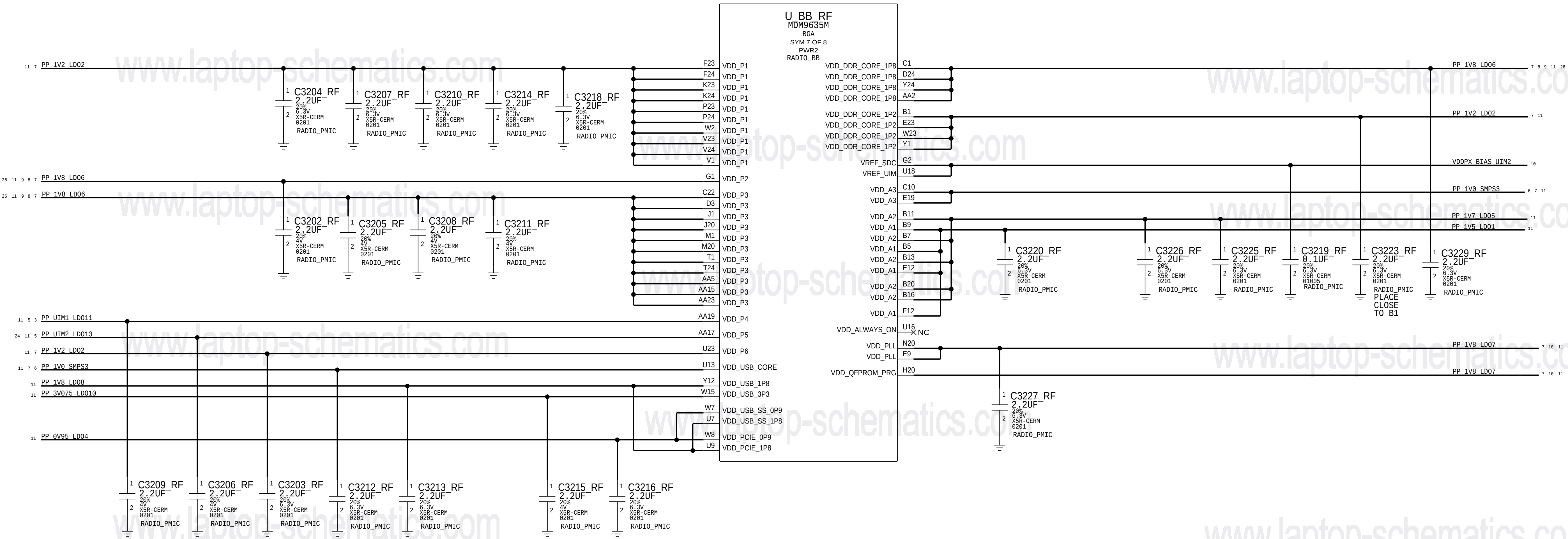


PAGE TITLE			
DEBUG CONN & TEST POINTS			
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BASEBAND: POWER 1

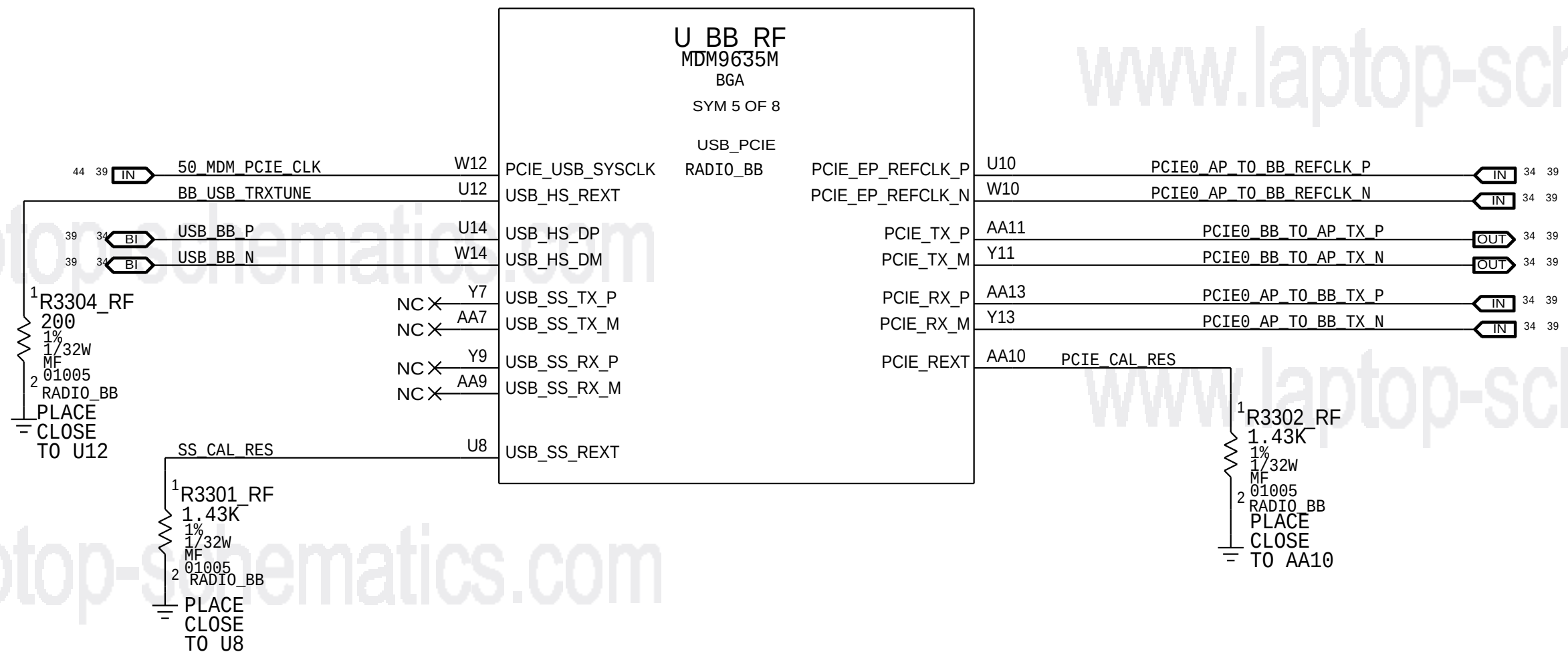
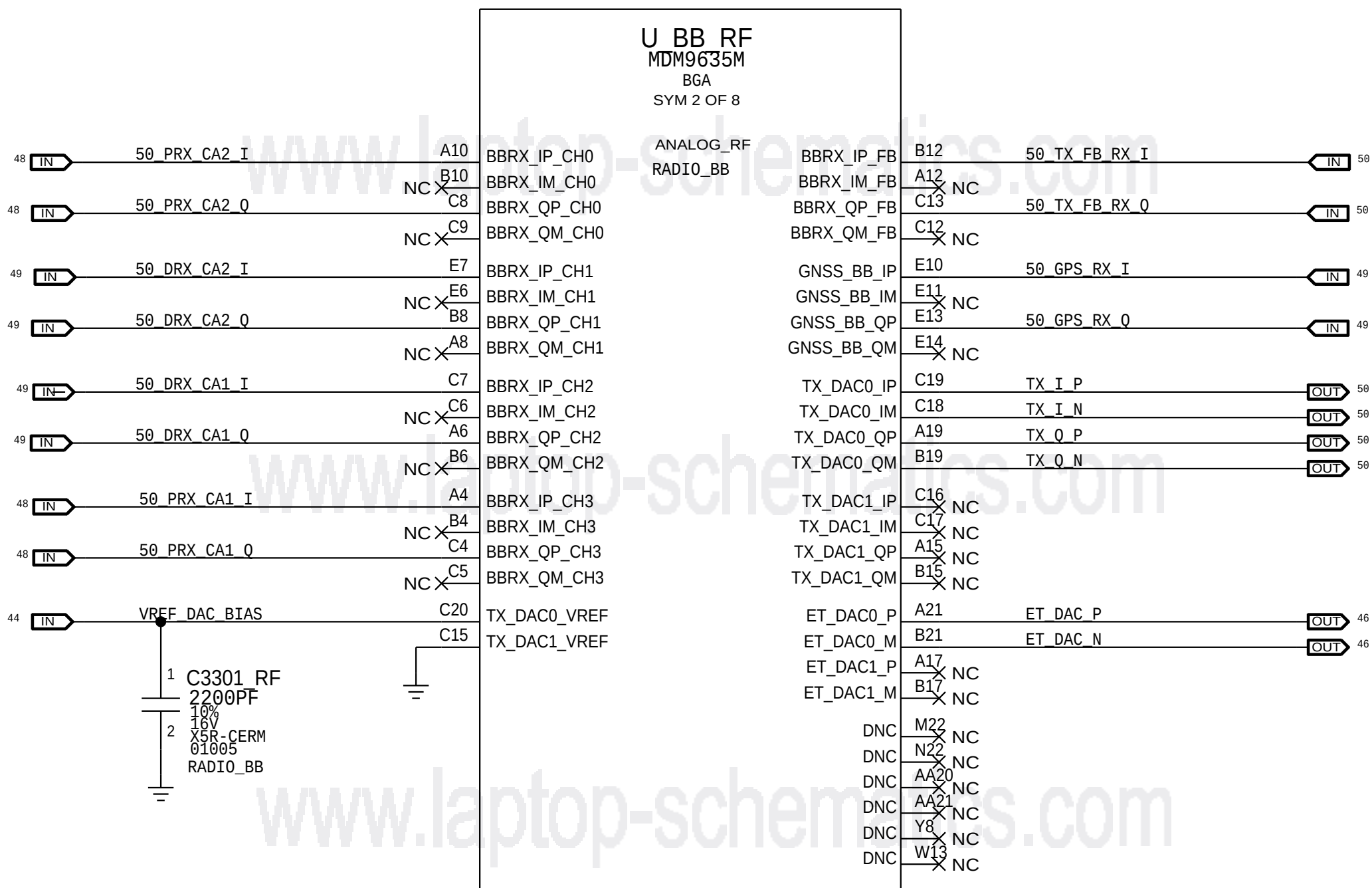
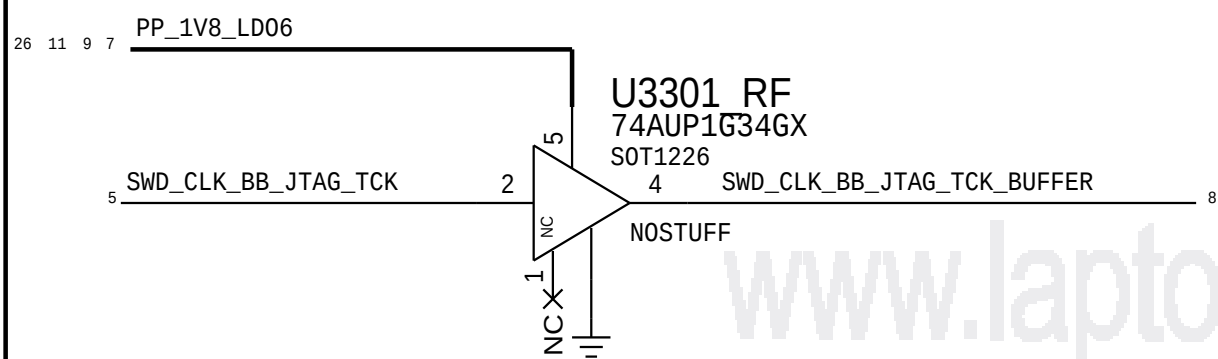
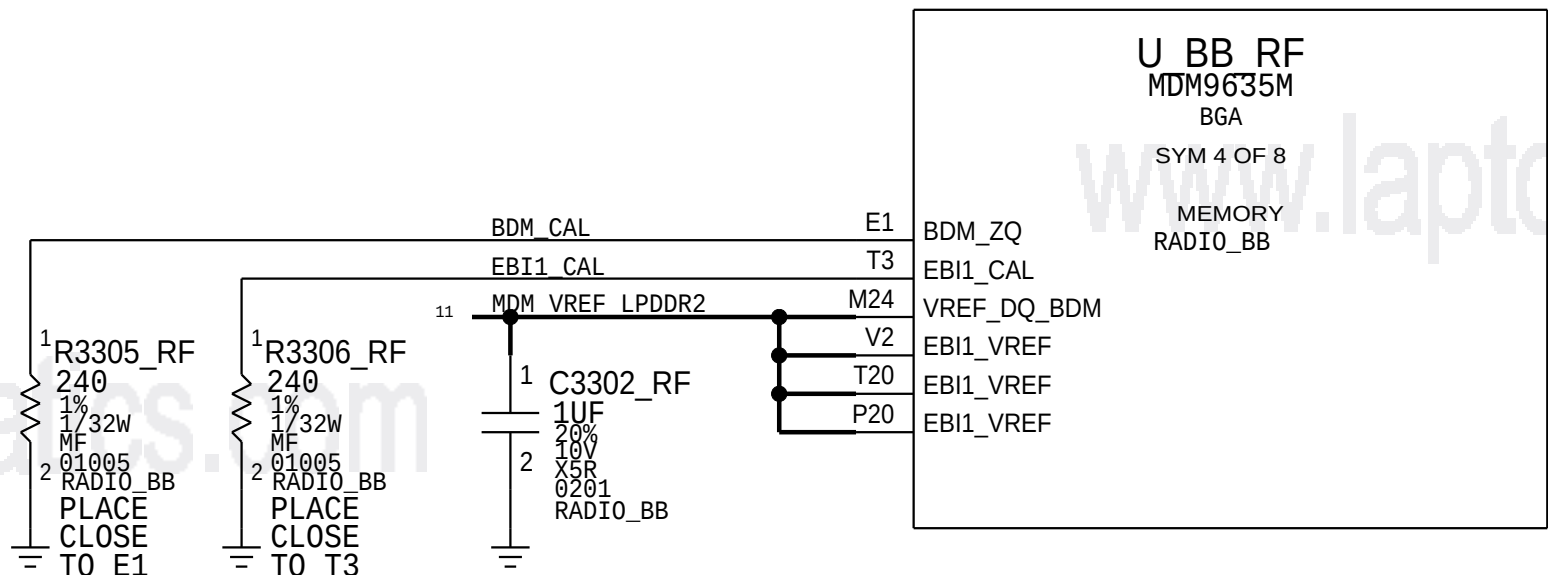
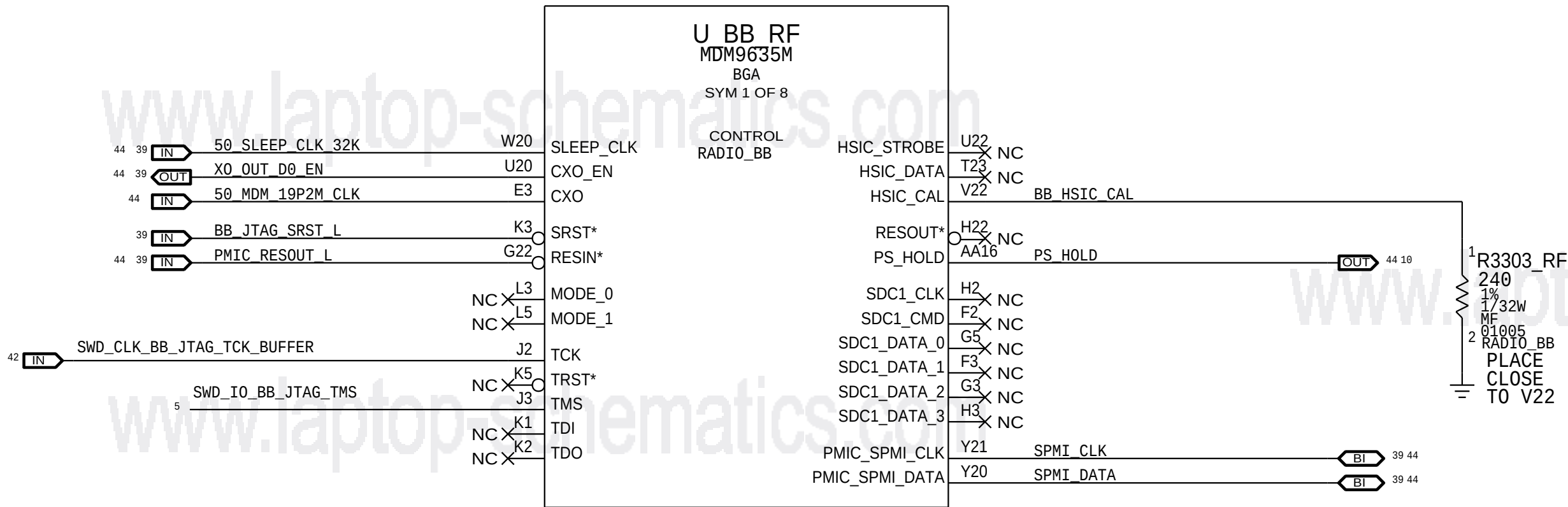


BASEBAND: POWER 2



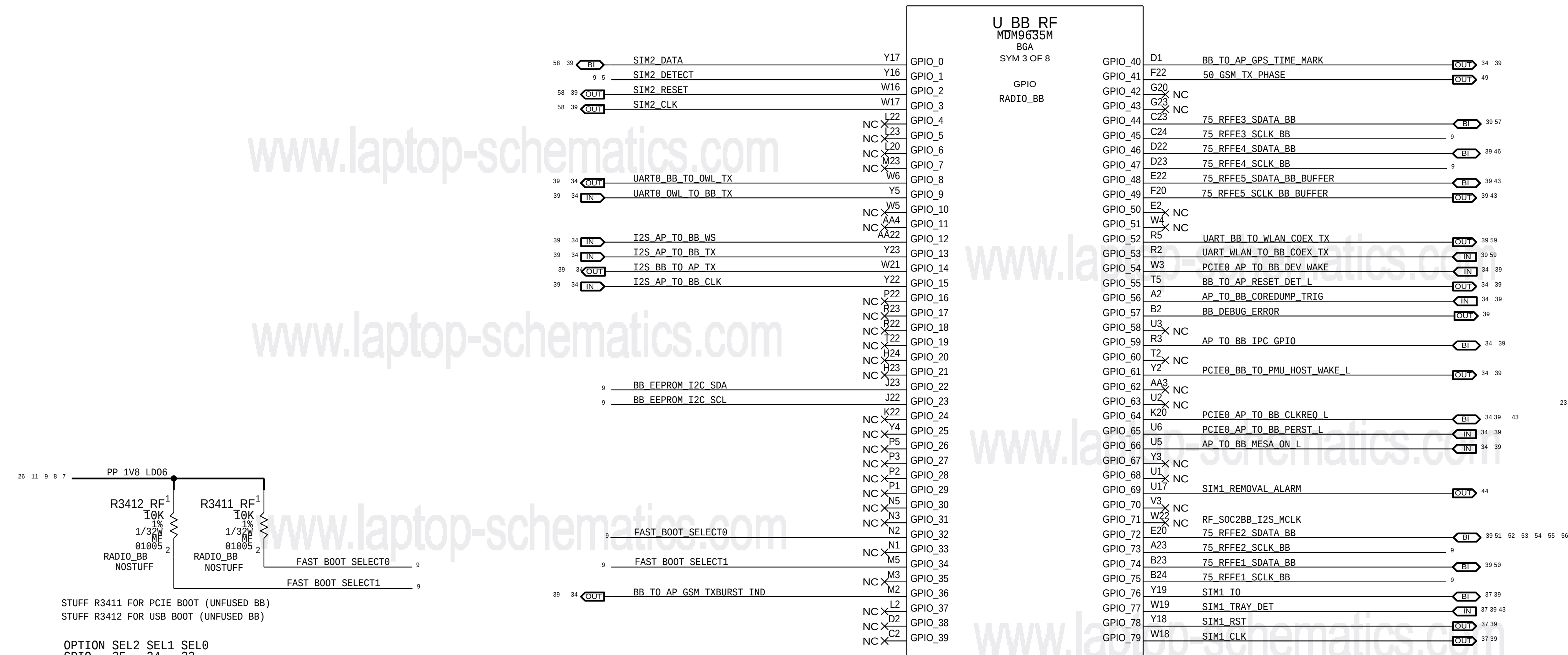
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BASEBAND: CONTROL AND INTERFACES

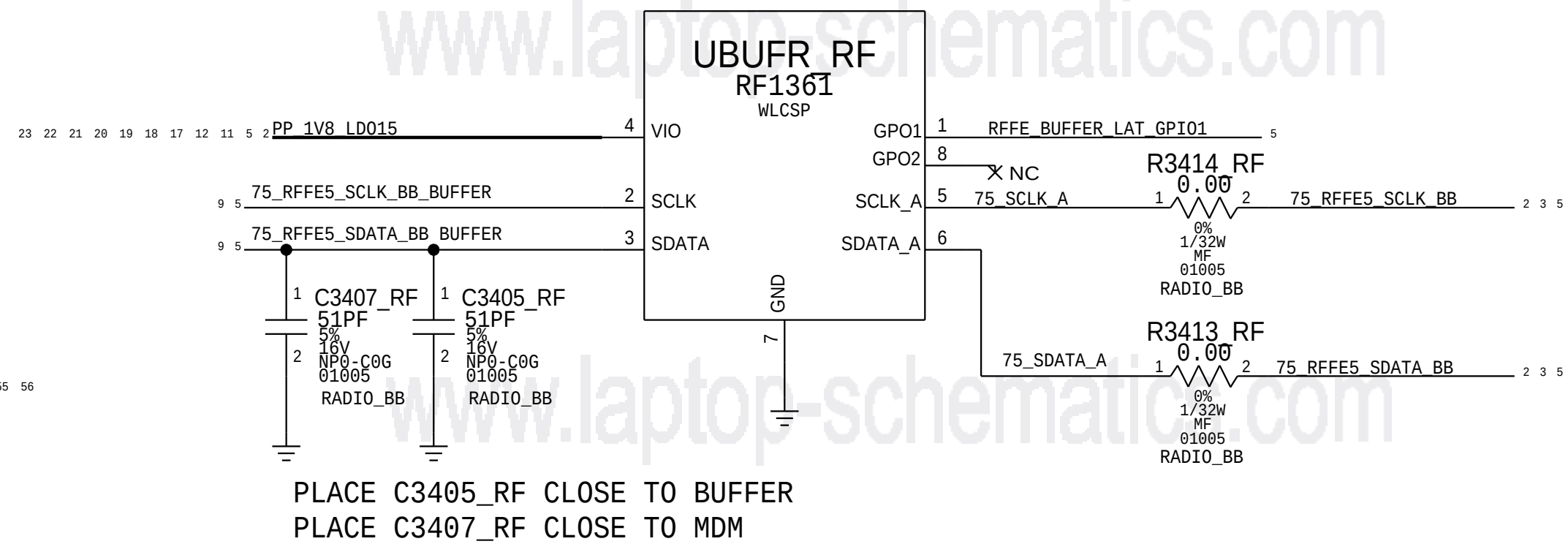


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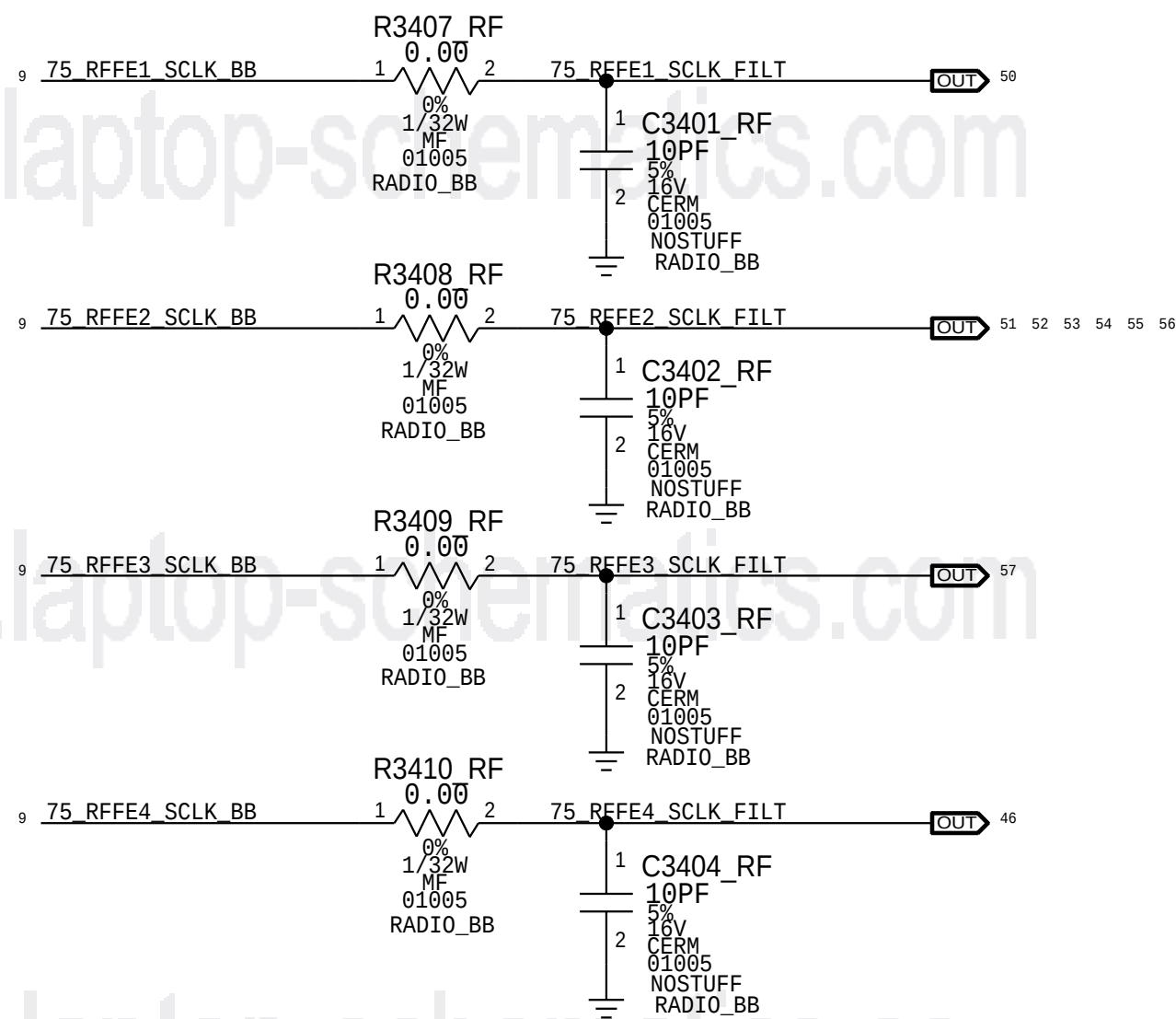
BASEBAND: GPIOs



BUFFER ON RFFE5
SCLK/SDATA_A IS OUTPUT



RFFE CLOCK FILTERS



RFFE USAGE TABLE

- RFFE1 WTR
- RFFE2 LB/MB/HB PAD, 2G PA, LB/MB/HB ASM
- RFFE3 DIV ASM
- RFFE4 QPOET
- RFFE5 DIV LNA, ANT TUNERS

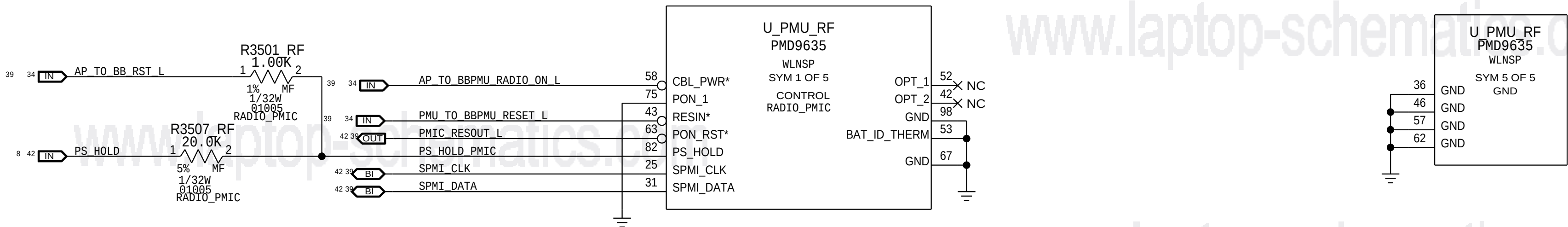
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BRANCH		PAGE
		34 OF 51
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PMU: CONTROL AND CLOCKS

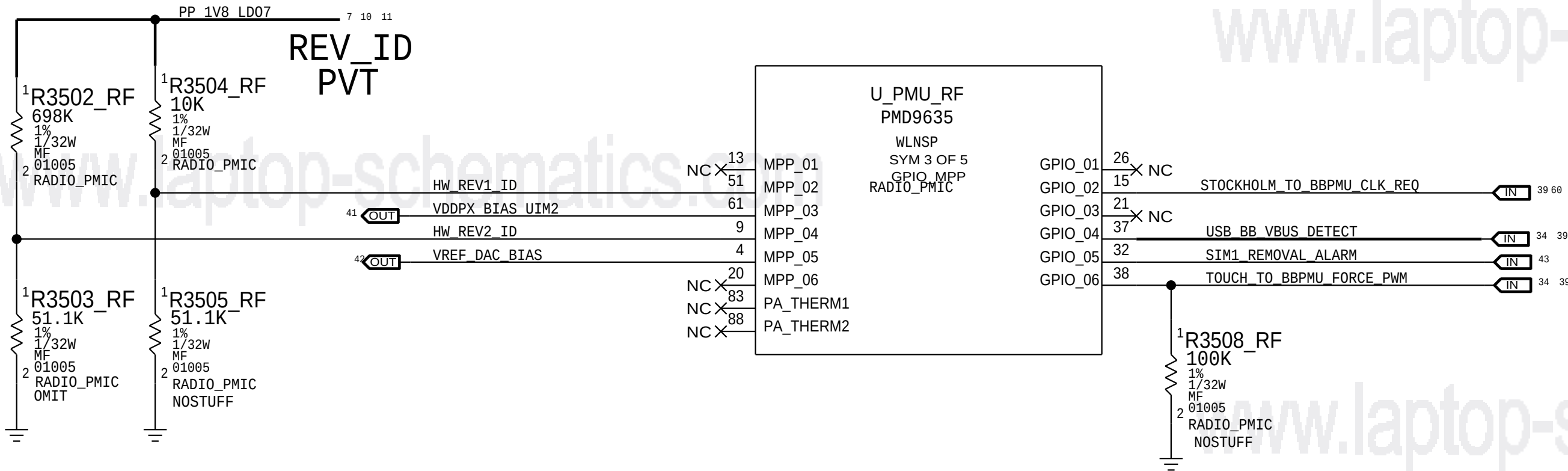
HW REV1 ID	R3502	R3503	CONFIG
1.80V	698K	-	MLB
0.12V	698K	51.1K	SELF GEN

HW REV ID	R3504	R3505	REVISION
0.10V	887K	51.1K	DEV1
0.30V	255K	51.1K	DEV2
0.50V	124K	51.1K	DEV3
0.70V	82.5K	51.1K	DEV4/PROT0MLB1
0.90V	51.1K	51.1K	PROT0MLB2
1.10V	31.6K	51.1K	DEV5/PROT01
1.20V	50K	100K	PROT02
1.31V	39K	105K	EVT
1.43V	13.3K	51.1K	EVT ALT
1.55V	8.25K	51.1K	CARRIER BUILD
1.67V	3.92K	51.1K	DVT
1.80V	10K	-	PVT

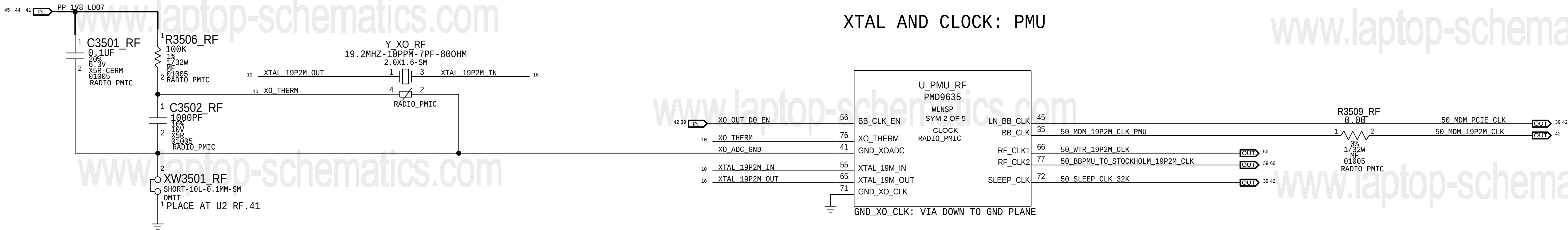
RESET AND CONTROL: PMU



MPPS AND GPIOs: PMU



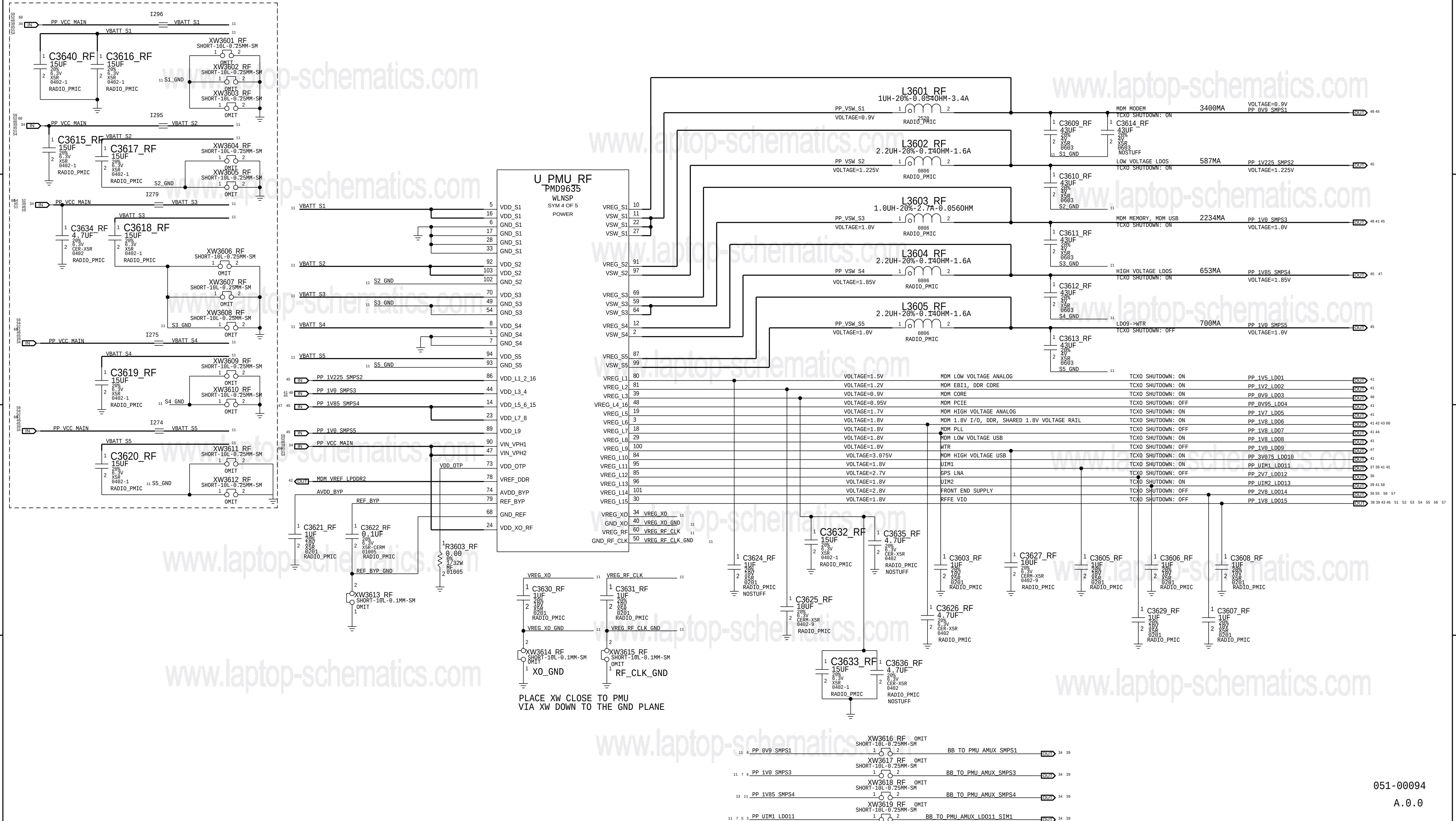
XTAL AND CLOCK: PMU



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PMU: SWITCHERS AND LDOS

SWITCHERS BULK CAPS



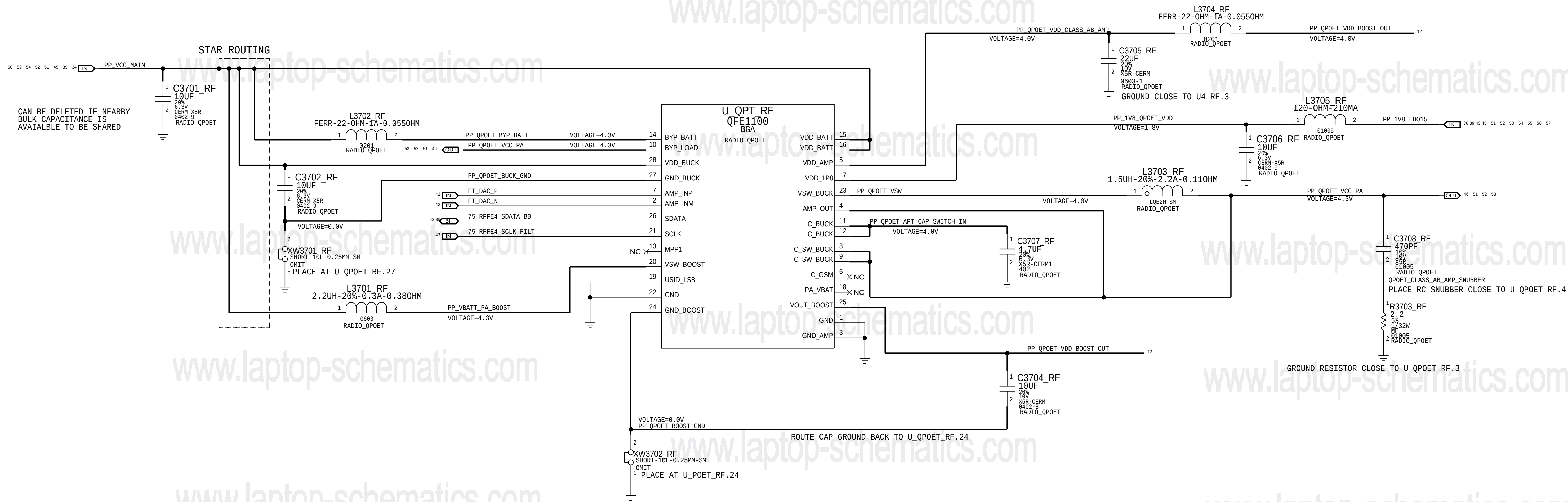
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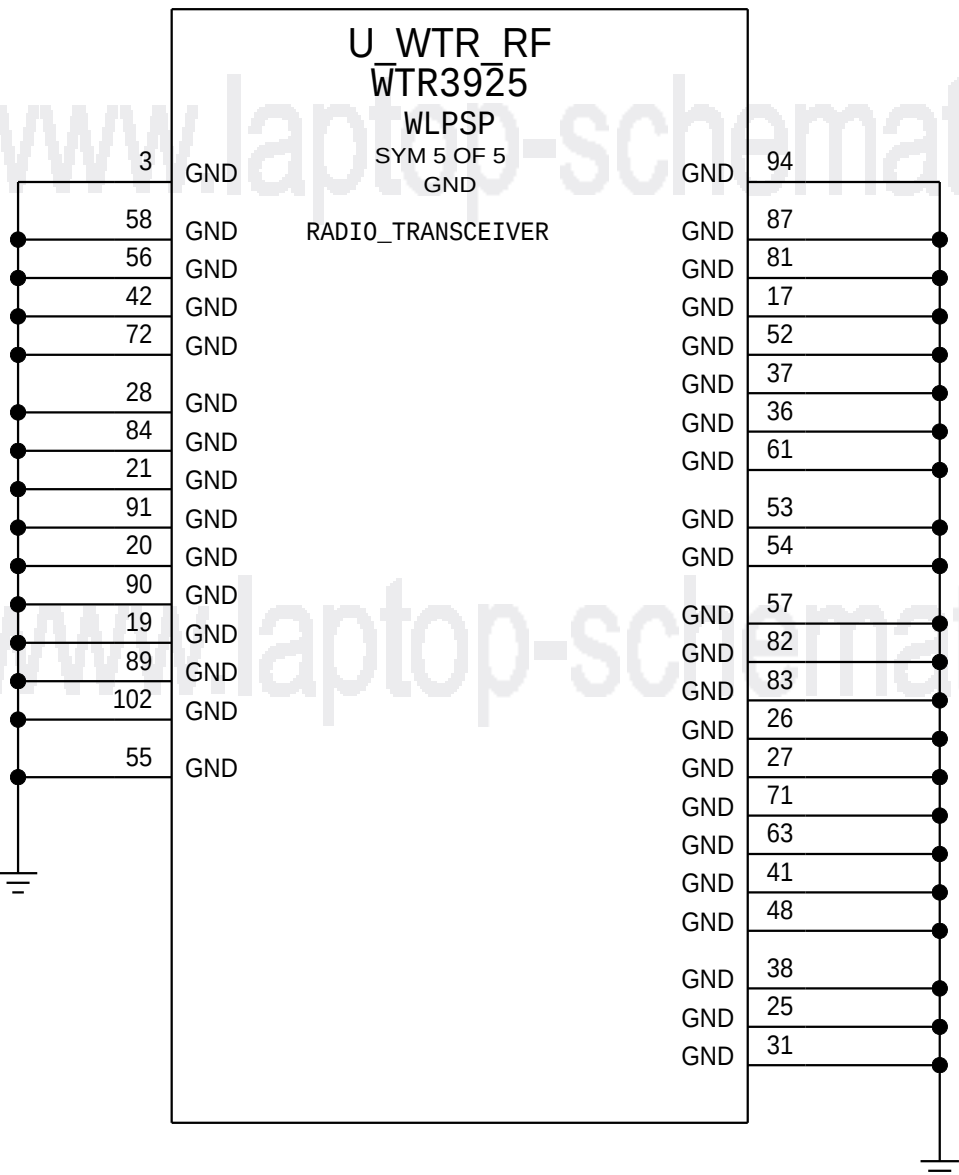
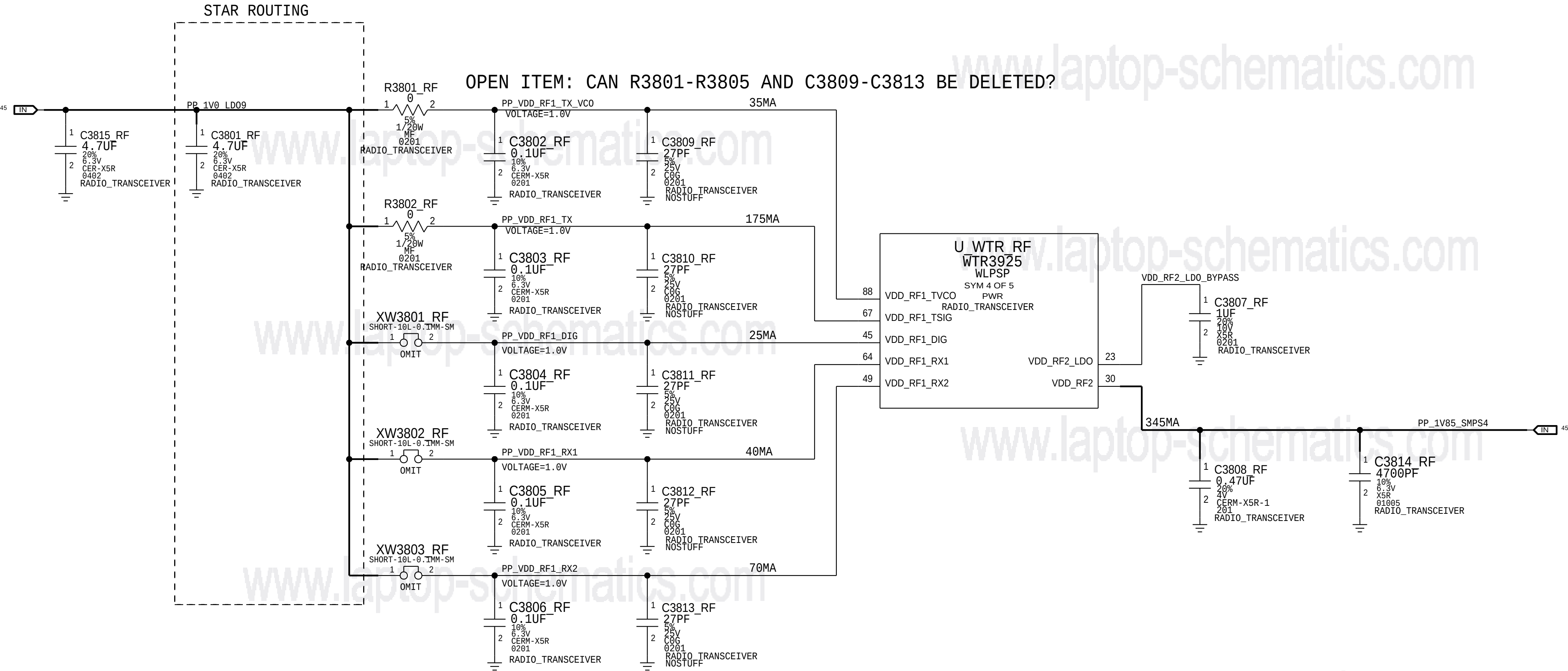
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PMU: ET MODULATOR



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CELLULAR PMU: ET MODULATOR		
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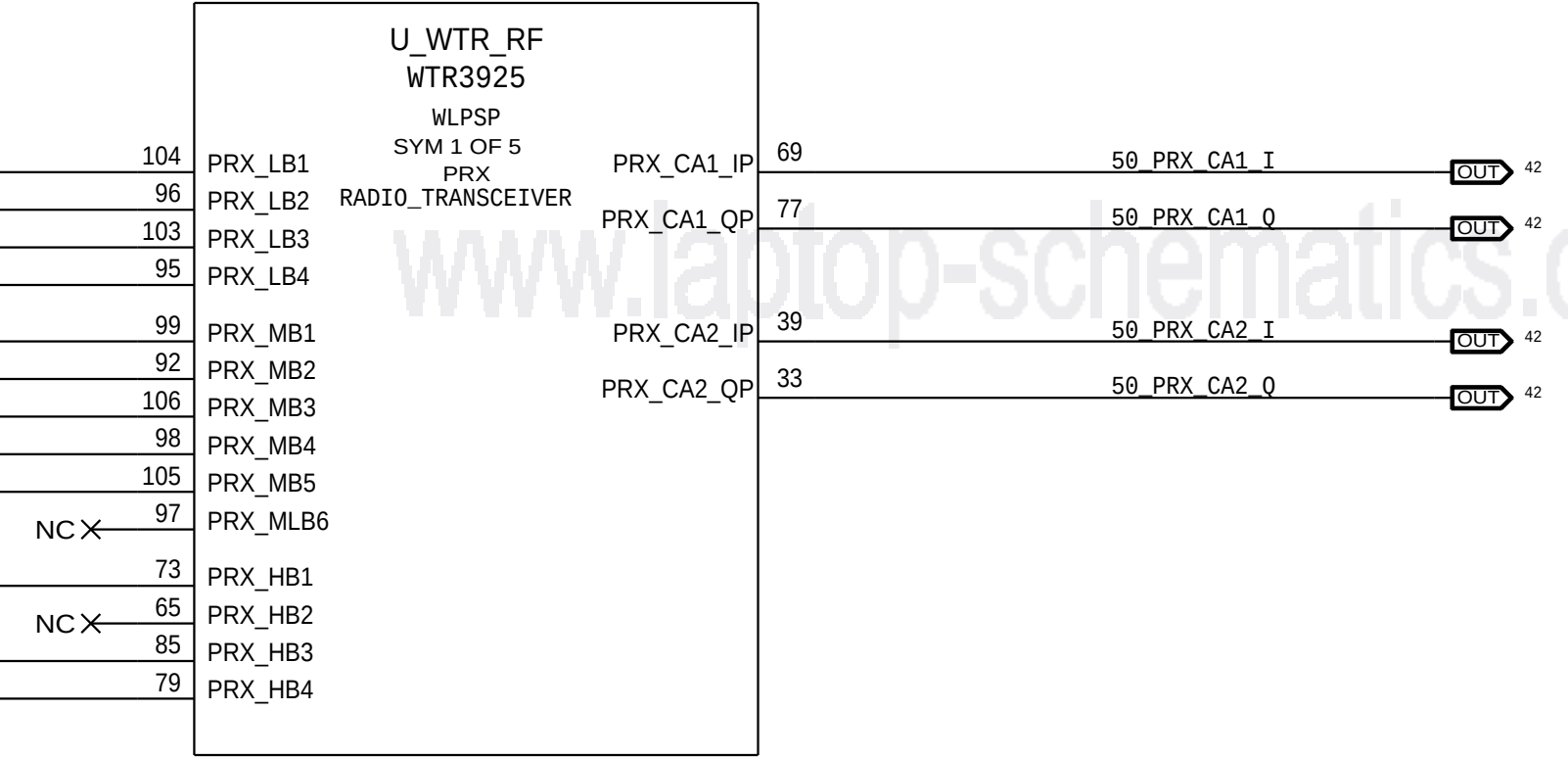
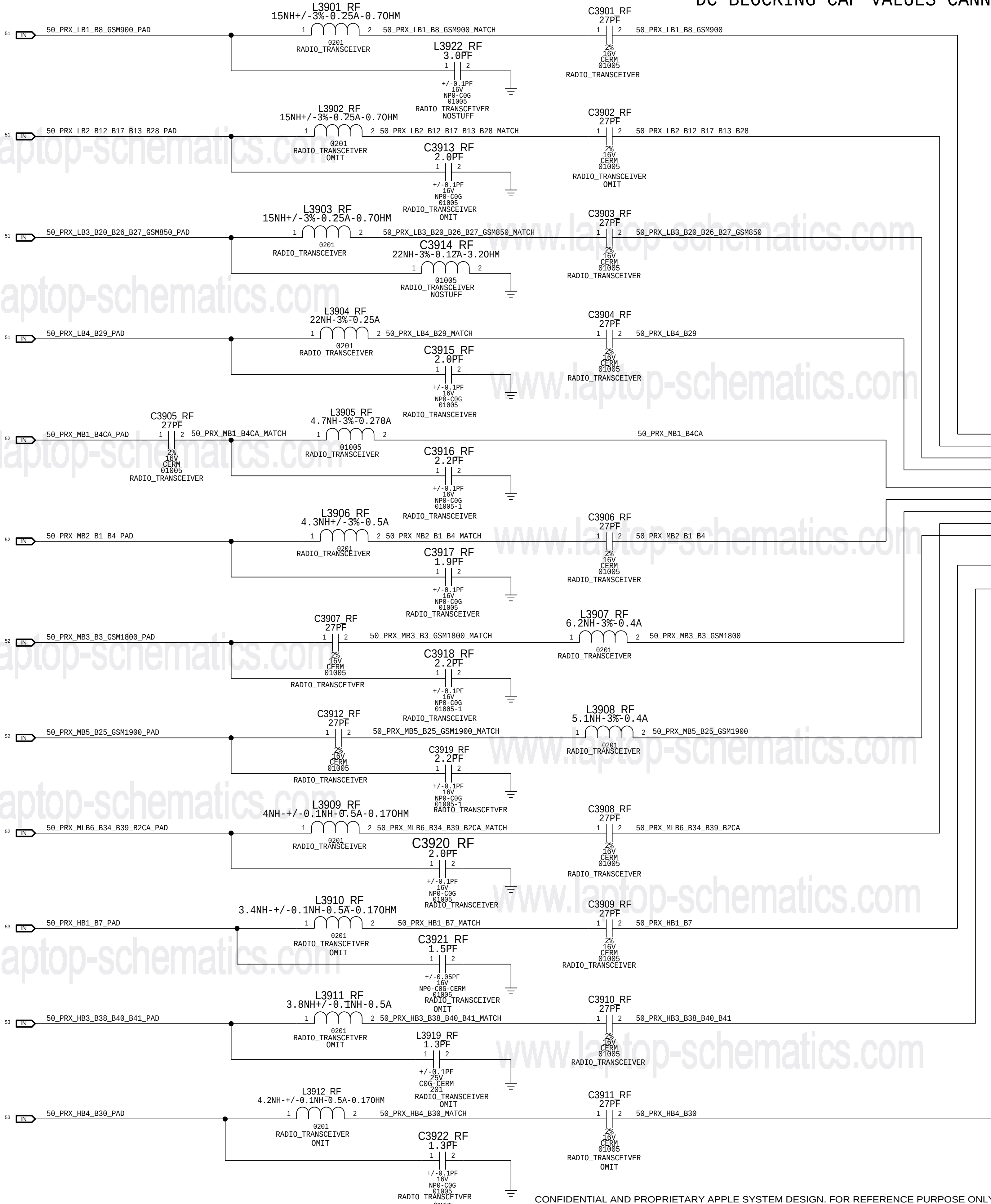
TRANSCEIVER: POWER



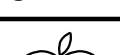
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	BRANCH		
	PAGE		38 OF 51
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TRANSCEIVER: PRX PORTS

DC BLOCKING CAP VALUES CANNOT BE MORE THAN 33PF

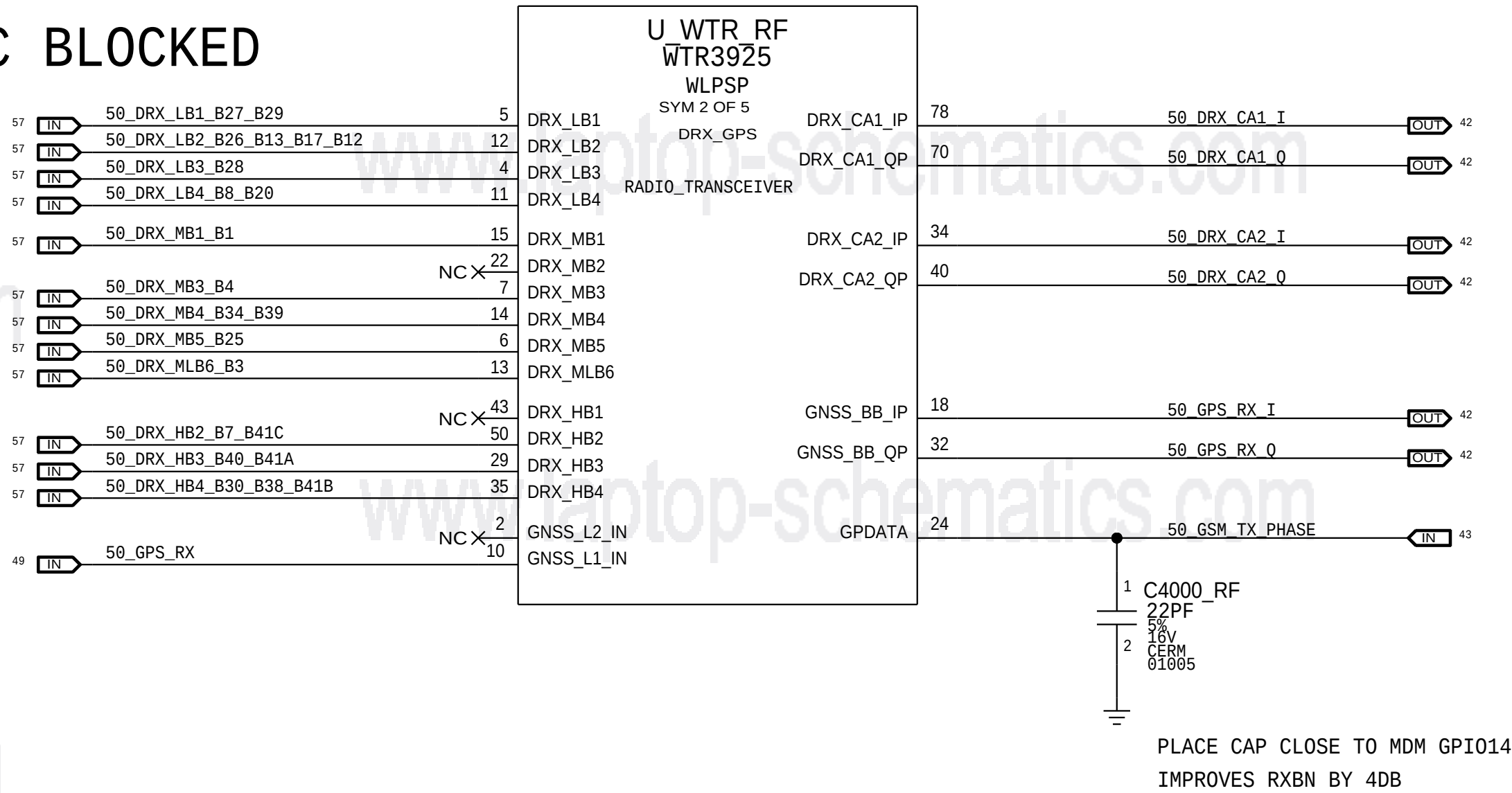


FOR EVT_MD:
50_PRX_MLB6_B34_B39_B2CA IS ASSIGNED TO MB4

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 Apple Inc.	DRAWING NUMBER 051N-00094		SIZE D
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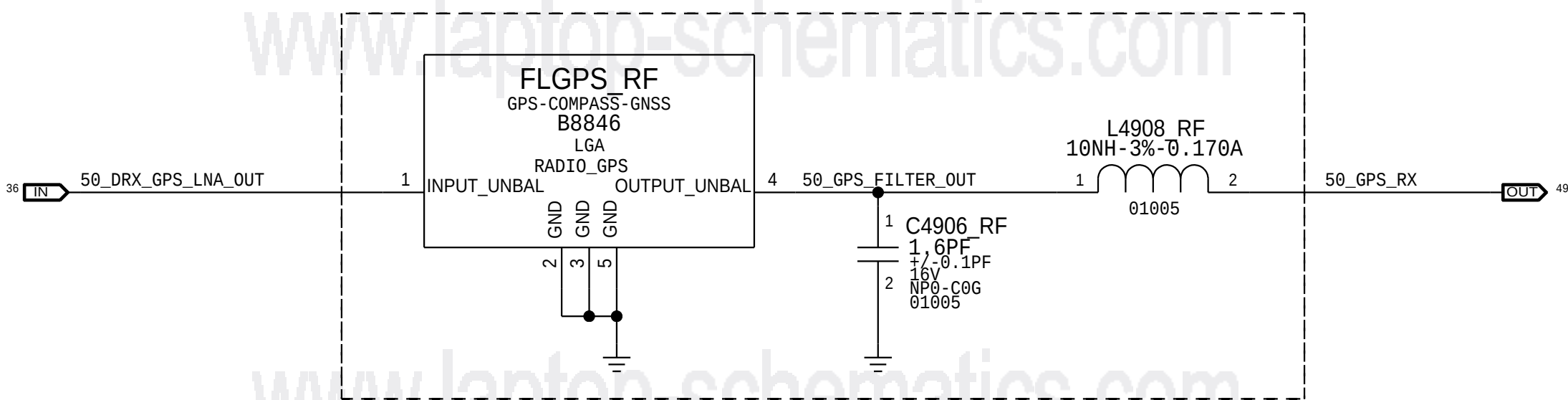
TRANSCEIVER: DRX/GPS PORTS

DRX MODULE PORTS ARE DC BLOCKED



GPS FILTER

PLACE NEAR U_WTR



PAGE TITLE			
CELLULAR TRANSCEIVER: DRX/GPS PORTS			
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D



B



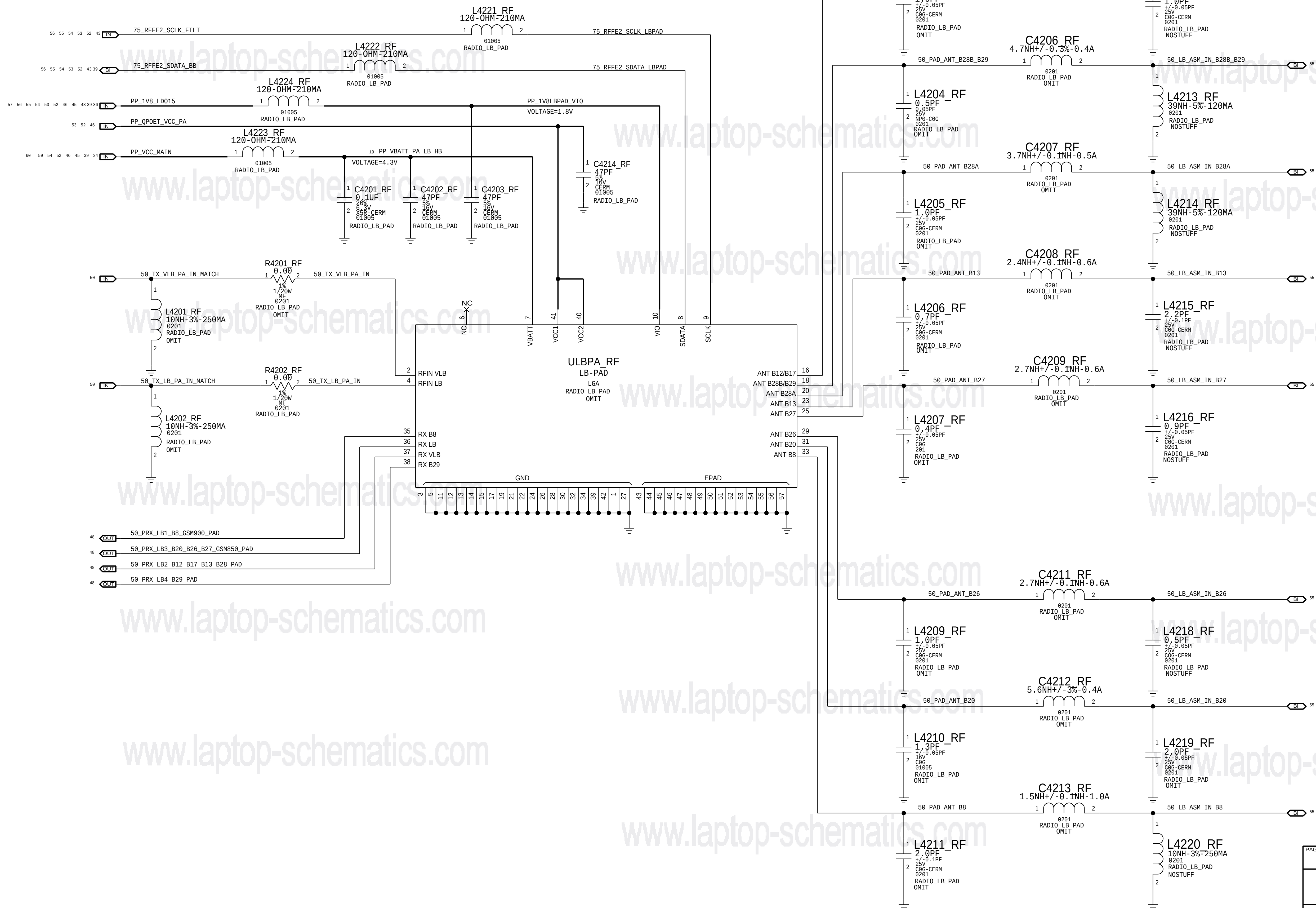
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A

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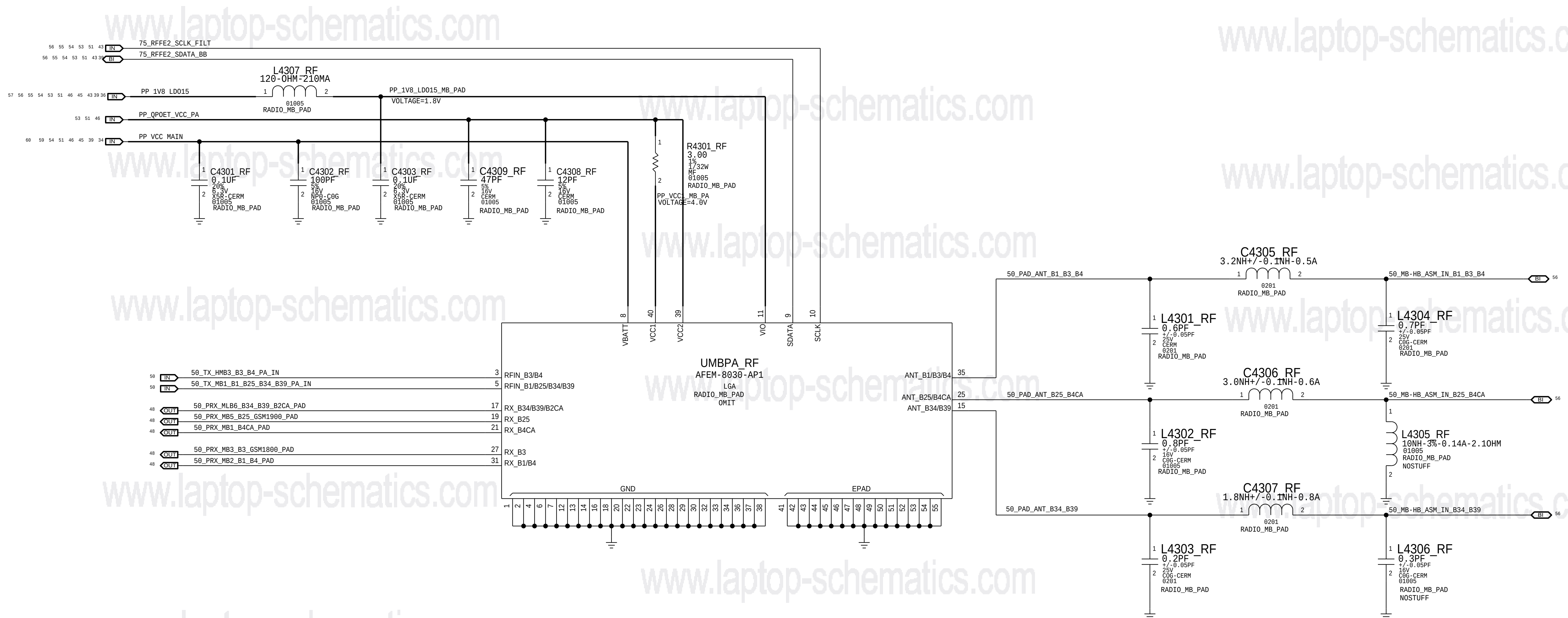
LOW BAND PA+DUPLXERS



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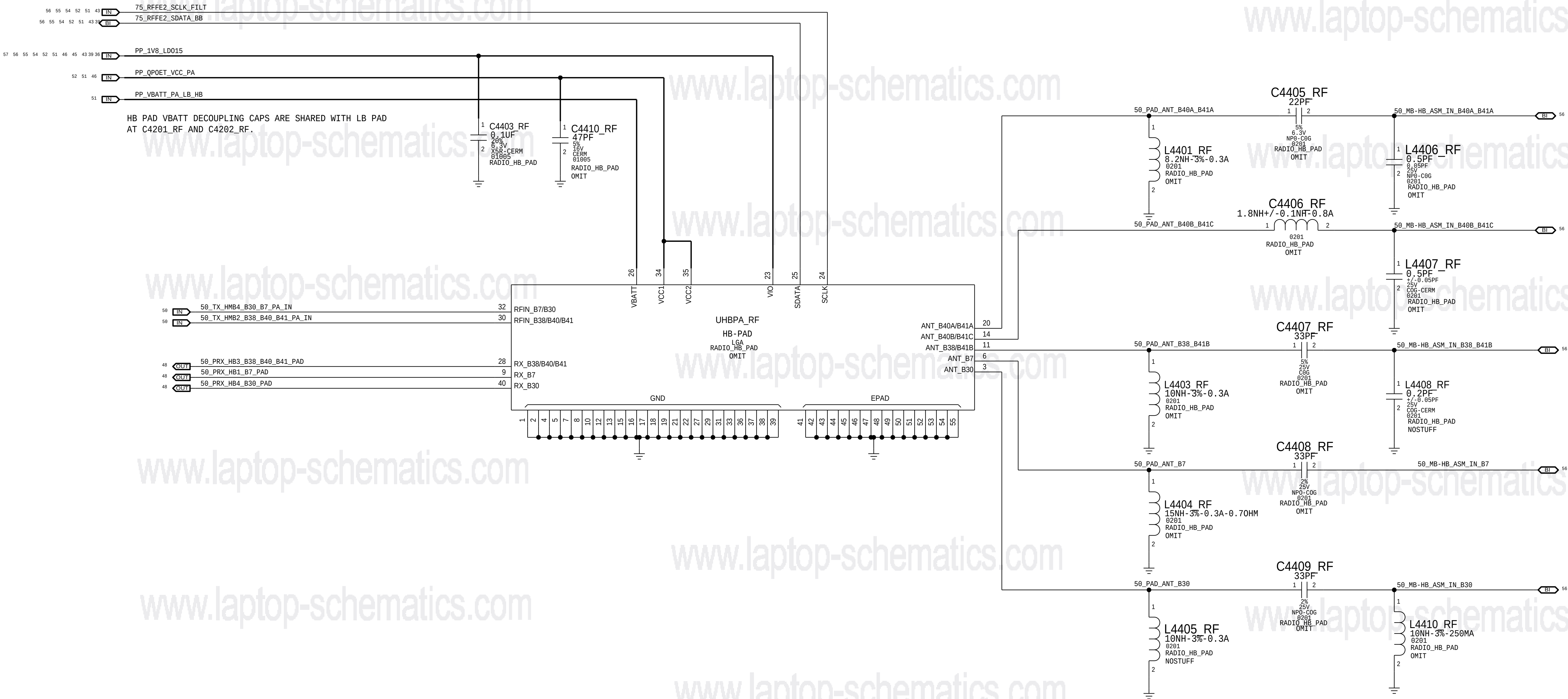
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MID BAND PA+DUPLXERS



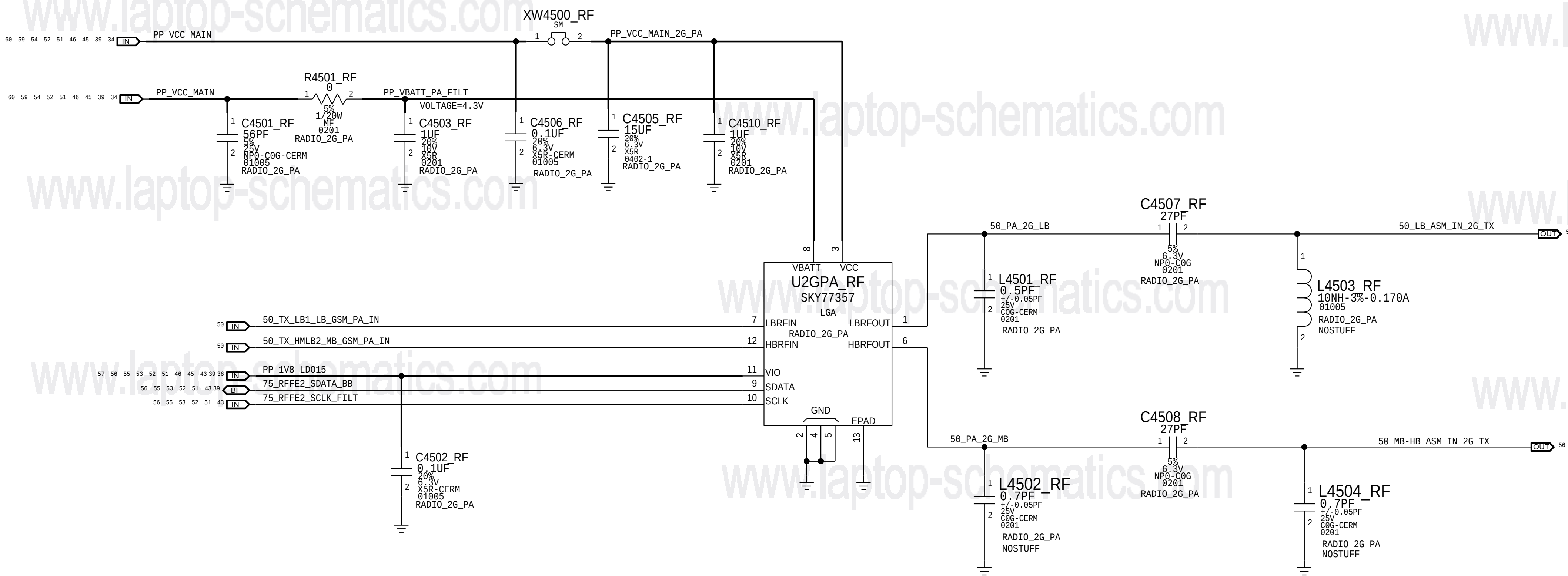
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HIGH BAND PA+DUPLEXERS



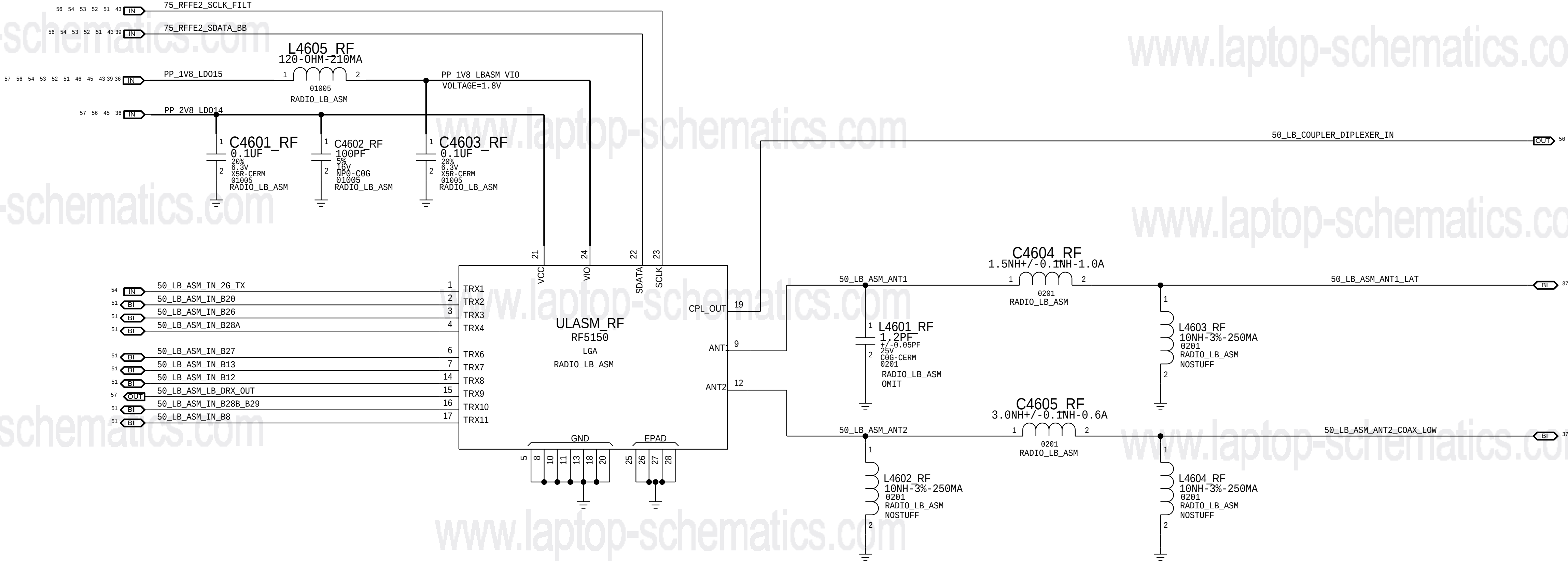
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2G PA



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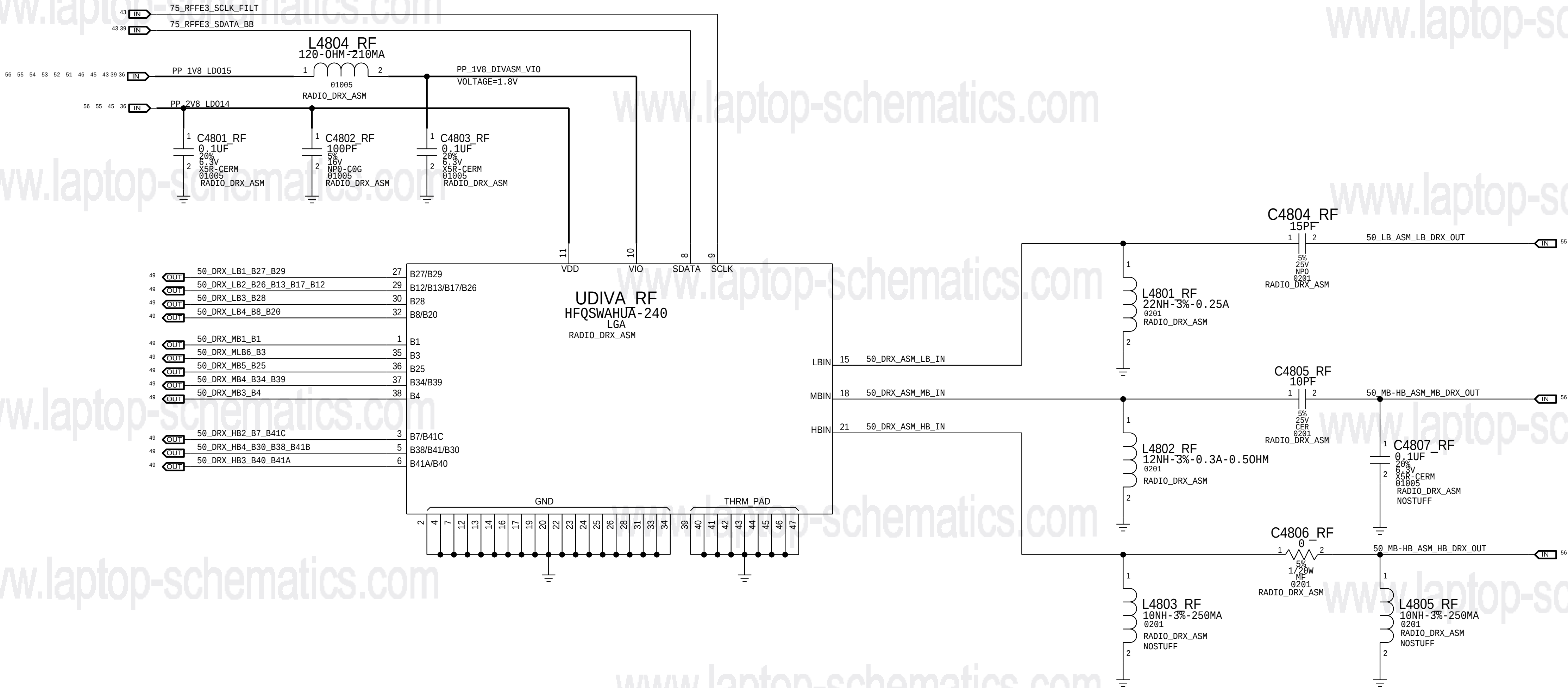
LOW BAND ANTENNA SWITCH MODULE



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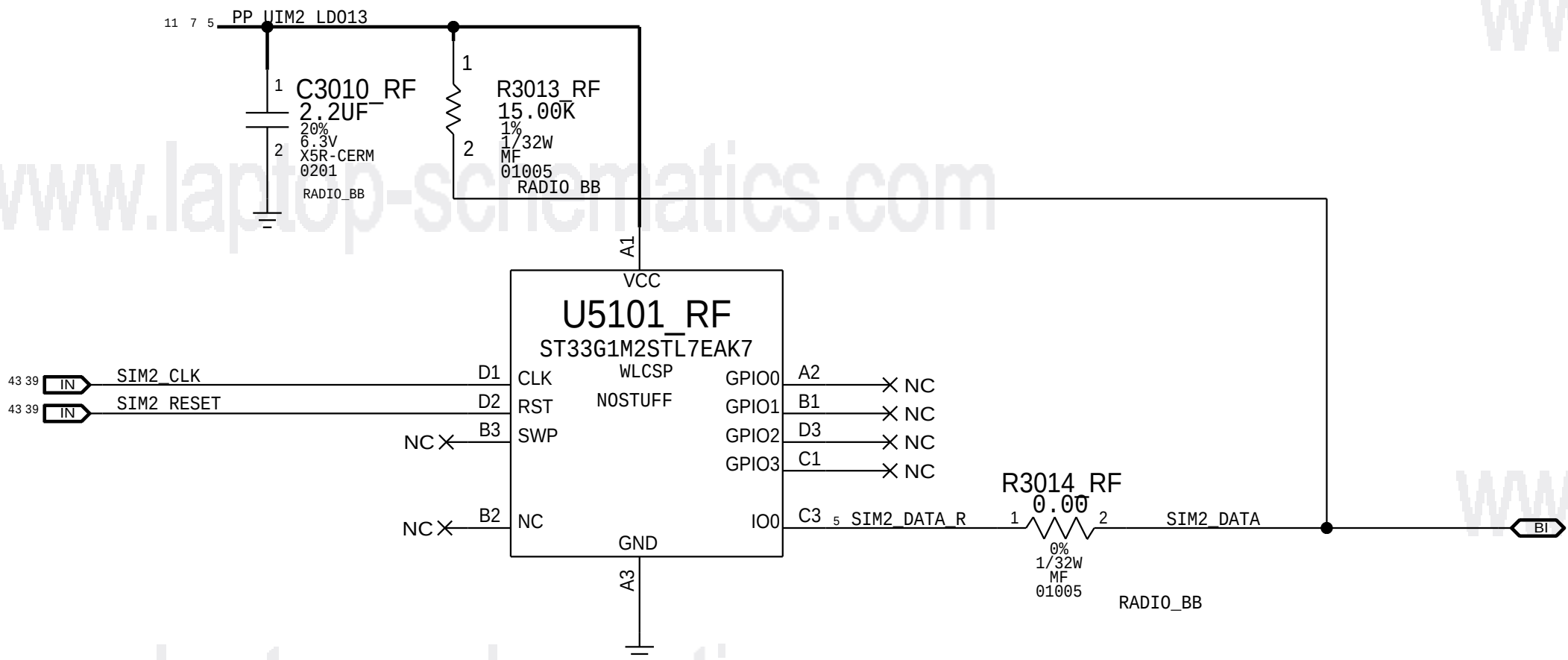
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DIVERSITY MODULE



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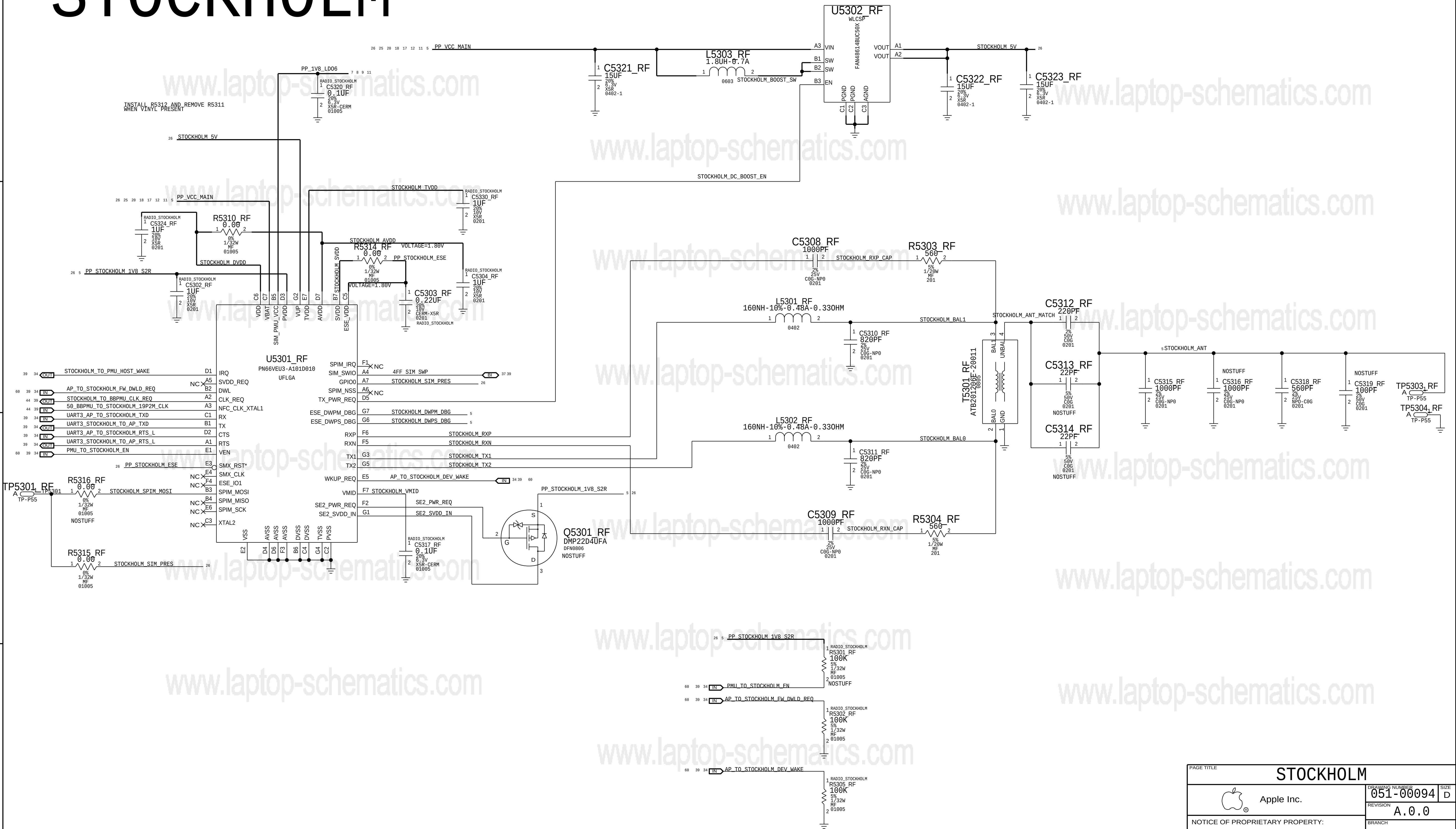


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STOCKHOLM

ALL NETNAMES NEED TO BE CHECKED



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